"RUMINATION REDUCTION IN UNIVERSITY STUDENTS: A COMPARATIVE STUDY OF SELF-COMPASSION AND PROBLEM-SOLVING THERAPIES WITH GENDER AND AGE AS MODERATORS"

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ABSTRACT
This study determined the effects of self-compassion therapy (SCT) and problem solving therapy (PST) on ruminating behaviour among university students in Oyo state, Nigeria. The moderating effects of gender and age were also examined. Cognitive-emotional processing theory provided the framework, while the pretest-posttest control group quasi-experimental design with a 3x2x3 factorial matrix was adopted. A sample of 66 students was selected using purposive sampling technique from three selected universities in Oyo state. The participants were randomly assigned to SCT (15), and PST (21) and control (30) groups. Participants in the SCT and PST groups were exposed to eight weeks training simultaneously, while those in the control group were given routine positive life living as placebo. Ruminating Behaviour Scale by Nolen-Hoeksema (1991) (α =.80) and Perseverative Thinking Questionnaire prepared by Bernstein et al (2017) (α=.86) were used to collect data. Analysis of Covariance and Scheffe Post-hoc test were used to analyse data at α = 0.05 level of significance. There was significant main effect of treatment on ruminating behaviour among the participants ($F_{(2, 47)} = 3.114$, partial $\eta^2 = 0.54$). The participants in SCT attained smallest ruminating behaviour mean score (44.27), followed by PST ($\bar{x} = 44.71$) and the control group ($\bar{x} = 53.80$). There was a significant main effect of age on ruminating behaviour ($F_{(2, 47)} = 4.002$, partial $\eta^2 = 0.146$). Participants who are young adults ($\bar{x} = 36.59$) had smallest ruminating mean score than those who are middle and older adult groups ($\bar{x} = 45.19$ and 55.53) respectively. Self-compassion and problem solving therapies were effective in the reduction of ruminating behaviour among university students in Oyo state, Nigeria, though the former was more effective. Age is a strong factor for consideration in ruminating behaviour. Counselling psychologists should utilize these therapies in reducing ruminating behaviour.

***Keywords**: Rumination Reduction, University Students, Comparative Study, Self-Compassion therapy, Problem-Solving therapy, Moderators*

BACKGROUND TO THE STUDY
Ruminating behaviour among human beings refers to the tendency to repetitively think about, reflect on, and dwell on negative emotions, thoughts, and experiences without taking action or finding resolution. It is like getting stuck in a mental loop, replaying the same worries, fears, or regrets over and over again. Rumination can manifest in different ways, such as: dwelling on past mistakes or failures, worrying excessively about the future, rehashing conversations or events, focusing on perceived injustices or slights and engaging in negative self-talk or self-criticism.
Also, repetitive negative thinking (RNT) refers to the tendency to repeatedly dwell on negative situations, feelings and events (Ehring & Watkins, 2008). It has been identified as a core underlying cognitive mechanism in major depressive disorder and a number of anxiety disorders (Watkins, 2008 & Nolen-Hoeksema, 1998). Rumination and worry are arguably the two most studied variants of ruminating negative thinking. Rumination in another word refers to a passive, repetitive and evaluative focus on the causes, meanings and implications of depressive symptoms (Nolen-Hoeksema, 1998) whilst worry has been conceptualized as a 'chain' of repetitive and uncontrollable thoughts and images focused on possible future negative outcomes and the consequences of these (Ehring et al, 2011). Rumination and worry have each been shown to be key contributing factors in the onset, severity, maintenance and relapse risk of depression and

anxiety disorders (Watkins & Roberts, 2020), making them important treatment targets. Independent of clinical disorders, both processes have also been associated with increased negative affect and negative cognition, difficulties concentrating and paying attention, and impaired problem-solving (e.g. Lyubomirsky & Tkach, 2004; Nolen-Hoeksema, 2004).

Many researchers have been using cognitive behaviour therapy (CBT) long ago to consider the gold-standard psychological treatment for depression and anxiety disorders (Cuijpers et al., 2008), and their findings suggest CBT may not completely resolve RNT (e.g. Jones et al., 2008; Schmaling et al., 2002). This may partially explain why a significant proportion of people do not respond to, or relapse, following standard CBT treatments, and why many continue to experience high levels of residual symptoms, particularly rumination (Dimidjian et al., 2006; Hofmann et al., 2012). Accordingly, many clinical researchers have increasingly focused on developing and evaluating treatments specifically targeting these ruminating negative thinking processes in order to better prevent and reduce psychopathology, with promising findings to date (e.g. Teismann et al., 2014; Watkins et al., 2007; Watkins et al., 2011). Also promising are initial outcomes of trials evaluating the efficacy of internet-delivered interventions that simultaneously target both rumination and worry. The results indicate the effectiveness of these interventions in reducing participants' levels of rumination and worry, and symptoms of depression and anxiety and suggest that the internet can be an effective mode of delivery for these targeted interventions (Cook et al., 2019; Topper et al., 2017). Delivering treatment via the internet is recognized to overcome a number of the barriers to accessing face-to-face treatment, with equivalent effectiveness (Andrews et al., 2010; Andrews et al., 2018). However, this approach may not work in Sub-Sahara Africa in the sense that majority of the patients may not have access to internet facility and in a situation where the facility is available electricity supply may hinder such possibility.

Far fewer studies have taken a qualitative approach to explore rumination and worry; however, doing so facilitates a more in-depth understanding of these processes (Willig, 2001). In existing qualitative studies, rumination has consistently been characterized as a common yet intrusive, repetitive and uncontrollable experience (Oliver et al., 2015; Pearson et al., 2008; Sloan et al., 2021). Rumination has also been shown to be focused on a number of different themes and is often triggered by interpersonal situations and interactions (Oliver et al., 2015; Pearson et al., 2008; Sloan et al., 2021). Also consistent across the existing qualitative literature is the use of distraction as the most commonly reported attempt at stopping or interrupting rumination (Oliver et al., 2015; Pearson et al., 2008; Sloan et al., 2021).

A number of theories (e.g. Dugas et al., 1998; Nolen-Hoeksema, 1991; Papageorgiou & Wells, 2001; Wells, 1995) suggest that ruminating negative thinking is initiated and reinforced by positive and negative (e.g. ‘my worrying is uncontrollable’) metacognitive beliefs. In support of these theories, metacognitive beliefs predict symptom maintenance and are associated with increased ruminating negative thinking frequency (Cartwright-Hatton & Wells, 1997; Papageorgiou & Wells, 2001). Metacognitive beliefs have also been consistently reported by participants in existing qualitative studies exploring negative thinking frequency (Oliver et al., 2015; Pearson et al., 2008; Sloan et al., 2021).

The handful of qualitative studies that have investigated individuals' understandings and experiences of negative thinking frequency have provided valuable insights into the content, frequency, duration and consequences of negative thinking frequency, and start and stop triggers and the emotions associated with these processes. However, these existing studies have focused on treatment-seeking clinical samples (Oliver et al., 2015; Pearson et al., 2008; Sloan et al., 2021).

However, not many studies have examined psychological interventions such as self-compassion therapy and problem solving therapy in reducing negative thinking. Hence, this study investigates the effect of self-compassion therapy and problem solving therapy in the management of ruminating behaviour among university students in Oyo state, Nigeria. Self-compassion therapy has been shown to have a negative correlation with ruminating behavior. In other words, increases in self-compassion are associated with decreases in rumination. Self-compassion therapy aims to cultivate a kind, accepting, and compassionate mindset towards oneself, which can help reduce rumination in several ways: Decreases self-criticism, self-compassion reduces self-criticism, which is a common trigger for rumination, increases emotional regulation. Self-compassion helps individuals better regulate their emotions, reducing the need to ruminate. It also, enhances mindfulness; self-compassion promotes mindfulness, which can help individuals become more aware of their thoughts and emotions, reducing rumination. It fosters a growth mindset and encourages a growth mindset, helping individuals view challenges as opportunities for growth, rather than dwelling on negative thoughts. Studies have consistently shown that self-compassion therapy can lead to significant reductions in rumination, improving mental health outcomes such as depression, anxiety, and stress. By cultivating self-compassion, individuals can develop a more compassionate relationship with themselves, reducing the need to engage in rumination.

Ruminating behaviour can also be managed with problem-solving therapy (PST) has been shown to have a negative correlation with ruminating behaviour. In other words, increases in problem-solving skills and abilities are associated with decreases in rumination. PST aims to enhance an individual's ability to effectively solve problems, which can help reduce rumination in several ways: It increases sense of control and enhances an individual's sense of control over their problems, reducing feelings of helplessness that can lead to rumination. It reduces stress and anxiety and effective problem-solving reduces stress and anxiety, which are common triggers for rumination. PST helps individuals better regulate their emotions, reducing the emotional intensity that can lead to rumination. It fosters adaptive thinking and promotes adaptive thinking patterns, reducing negative and distorted thinking that can contribute to rumination. PST enhances resilience and enabling individuals to better cope with challenges and setbacks, reducing the need to ruminate. Studies have consistently shown that PST can lead to significant reductions in rumination, improving mental health outcomes such as depression, anxiety, and post-traumatic stress disorder (PTSD). By developing effective problem-solving skills, individuals can reduce their tendency to ruminate and improve their overall mental well-being.

Age and gender are the moderating variables in this study because they are significant variables that can influence ruminating behaviour. Research suggests that rumination tends to decrease with age. Here's a general overview of the correlation between age and rumination: Younger adults tend to engage in more rumination, especially in response to stress and negative emotions. This may be due to ongoing brain development and the challenges of transitioning to independence. Middle-aged adult rumination tends to decrease during this period, as individuals develop greater emotional regulation skills, life experience, and a more stable sense of self. While older adult rumination tends to decrease further, as individuals often develop a greater sense of acceptance, wisdom, and emotional resilience. Older adults may also focus more on positive memories and experiences. However, this general trend has to do with individual differences and it plays a significant role. Factors like personality, life experiences, and mental health conditions can influence rumination patterns across the lifespan.

Also, literature suggests that women tend to engage in more rumination than men, although the difference is not absolute and can vary depending on the context and population. Women tend to

ruminate more than men, especially in response to stress, anxiety, and depression. This may be more likely to engage in brooding and reflective rumination. It may be as a result of experience more emotional reactivity and intensity, leading to increased rumination. While men tend to engage in less ruminating negative thinking than women, and may be more likely to use distraction or problem-focused coping strategies. It may be more likely to engage in instrumental rumination (e.g., problem-solving). These findings are based on averages and it should not be overgeneralized. Individual differences, cultural background, and specific life experiences can influence rumination patterns, regardless of gender. Additionally, gender roles and societal expectations may play a role in shaping rumination patterns. Women may be more likely to engage in emotional expression and processing, while men may be socialized to suppress emotions and focus on problem-solving. From the foregoing, there appears to be inconsistency in literature concerning the best intervention for reducing the ruminating behaviour among participants.

Statement of Problem

There has been an observable upsurge of ruminating negative thinking in Nigeria. This increase has culminated in many students withdraw from school, mass failure and many of them becoming mad and both the hospital, course mates and parents entering in to problems of insecurity of their lives and properties. Increase in ruminating behaviour poses long time effect on children and the entire society. Ruminating behaviour can lead to various negative consequences, including: increased stress and anxiety decreased problem-solving ability, poor mental health (depression, anxiety disorders), strained relationships and decreased productivity and performance and eventually withdraw from their studies. Ruminating behaviour has eventually turn the annual educational budget by the government at three tier levels to be a waste, the educational facilities put in place by the government at federal, state and local government levels has become wasteful as a result of ruminating behaviour because an individual suffering from ruminating behaviour may not be able to cope academically and may lead to withdrawal from school. The state and country where young and middle adults with ruminating behaviour are many such nation or community may not be able to compete favourably with nation or community where ruminating behaviour is not a challenge. Challenges surrounding the increase in ruminating behaviour have created wide range of psychosocial and financial implications on the individuals. More importantly, increase in the number of patients attended to in psychiatric hospitals is traceable to the increase in ruminating behaviour prevalent in the society. Hence, this study investigated the effect of self-compassion and problem solving therapies in managing ruminating negative thinking among university students in Oyo state, Nigeria.

Purpose of the Study

The purpose of this study are to:

1. Find out the main effect of treatment in the management of ruminating negative thinking behaviour among the participants;
2. Investigating the main effect of age in the management of ruminating negative thinking behaviour among the participants;
3. Determining the main effect of gender in the management of ruminating negative thinking behaviour among the participants.

Hypotheses

The following null hypotheses were formulated in this study and were tested at $\alpha = 05$ level of significance:

H1: There is no significant main effect of treatment in the management of ruminating negative thinking behaviour among the participants.

H2: There is no significant main effect of age in the management of ruminating negative thinking behaviour among the participants.
H3: There is no significant main effect of gender in the management of ruminating negative thinking behaviour among the participants.

METHODOLOGY

Research Design

The study adopted a pretest-post-test, control Quasi experimental design with a 3X2X3 factorial matrix. In essence the row consists of Problem-solving therapy and Self-compassion therapy and the control. The columns was occupied with gender varied at two levels (male and female) and crossed with age and it was varied at three levels(young, middle and old).

Population

The population for the study comprises of three universities in Oyo state, Nigeria. There are four universities in Oyo state, Nigeria. The research covered the faculties of Education in the three out of four universities in the state.

Sample and Sampling Technique

Multi-stage sampling technique was used to select the participants for the study. The first stage involved a simple random selection of three (3) Universities out four universities in the Oyo State. The second stage had to do with a simple random selection of three universities with faculty of Education. In each of the selected faculty of Education; the next stage was screening of the participants in the chosen faculty, using the screening instrument. A total of ninety-six (66) in faculty of education were selected based on the inclusion criteria to take part in the study and distributed accordingly. Problem solving therapy (PST) group had thirty-one (21) participants; Self-Compassion Therapy (SCT) group had fifteen (15) participants; while the Control Group (CG) had thirty-one (30) participants.

Instrumentation

Perseverative Thinking Questionnaire: The major instrument used in this study, is Perseverative Thinking Questionnaire prepared by Bernstein et al (2017) was used as a screening tool for the would be participants. It consists of 15 items with a 4-point score in which respondents react to the items in the scale ranging from strongly agree (4) to strongly disagree (1). The internal consistency reliability coefficient of the instrument according to the author was 0.81.

Ruminating behaviour scale: Ruminating Behaviour Scale by Nolen-Hoeksema (1991) was used to measure the criterion measure in the pretest-post-test stage. The ruminating negative thinking behaviour scale is 13-item inventory. This scale is a summative scale base on the items with congnisance of some items being reversed in scoring. All the answers given were scored and added up to indicate the level of ruminating behaviour, with a high number indicating a greater incidence of ruminating negative thinking behaviour. The internal consistency reliability coefficient was 0.89.

Procedure for Data Collection

Experimental Group One - Problem-Solving Therapy (PST)

The treatment package for Problem-Solving Therapy (PST) to address ruminating behaviour:

Treatment Components:

1. Initial Assessment:
   - Identify and define problems contributing to rumination
   - Assess problem-solving skills and cognitive distortions
2. Problem List:
   - Collaborate with the client to create a list of problems related to rumination
   - Prioritize problems based on importance and distress
3. Problem-Solving Training:
   - Teach the client the PST steps:
     1. Define the problem
     2. Identify goals
     3. Generate solutions
     4. Evaluate solutions
     5. Implement and verify solutions
   - Practice problem-solving with the client using real-life scenarios
4. Rumination Reduction Techniques:
   - Teach the client strategies to manage rumination:
     - Self-monitoring and tracking
     - Cognitive restructuring
     - Mindfulness and relaxation techniques
5. Emotional Regulation Skills:
   - Teach the client skills to manage emotions:
     - Identification and labeling
     - Acceptance and validation
     - Regulation and coping
6. Progress Evaluation and Relapse Prevention:
   - Regularly evaluate progress and problem-solving skills
   - Develop a relapse prevention plan to maintain gains

Experimental Group II - Self-Compassion Therapy (SCT)

The treatment package for Self-Compassion Therapy (SCT) to address ruminating behavior:

1. _Initial Assessment:
   - Evaluate rumination frequency and distress
   - Assess self-compassion and self-criticism levels
2. _Self-Compassion Education:
   - Define self-compassion and its benefits
   - Discuss the role of self-compassion in reducing rumination
3. _Self-Kindness Exercises:
   - Guided meditations and writings to cultivate self-kindness
   - Practice self-care and self-soothing techniques
4. _Common Humanity Exercises:
   - Explore shared human experiences and imperfections
   - Practice recognizing common humanity in oneself and others
5. _Mindfulness and Acceptance:
   - Teach mindfulness techniques to acknowledge difficult emotions
   - Encourage acceptance of emotions and thoughts without judgment
6. _Rumination Reduction Techniques:
   - Teach self-compassionate responses to rumination
   - Practice reframing negative thoughts and self-criticism
7. _Emotional Regulation Skills:
   - Teach skills to manage emotions with self-compassion
   - Practice self-compassionate emotional regulation
8. _Progress Evaluation and Relapse Prevention:
   - Regularly evaluate progress and self-compassion levels
   - Develop a relapse prevention plan to maintain gains

Control Group

In-line with the principle of does no harm the participants for the control group were provided with usual message on Positive living. This is comprehensive message for people with Ruminating Negative Thinking Behaviour

Session One: Collection of baseline data
Session Two: Discussion on positive living
Session Three: Collection of post intervention data

Data Analysis

Analysis of Covariance was used to test the hypotheses at α = 0.05 level of significance. A post-hoc analysis was conducted to test the direction of significant difference observed in the main treatment on ruminating negative thinking behaviour of the participants.

RESULTS

Hypothesis One: There will be no significant main effect of treatment on ruminating behaviour of participants in the selected universities in Oyo state, Nigeria.

Table 1: Summary of 3x2x2 Analysis of Covariance (ANCOVA) Showing the Significant Main Effects of Treatment Groups, Gender and Age of Students on Ruminating Behaviour

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	3858.346[a]	18	214.353	1.688	.076	.393
Intercept	4926.514	1	4926.514	38.796	.000	.452
Pre-score	21.006	1	21.006	.165	.686	.004
Treatment group	790.776	2	395.388	3.114	.045	.547
Gender	81.283	2	40.641	.320	.728	.013
Age	1016.315	2	508.157	4.002	.025	.460
Trtgroup * Gender	389.347	3	129.782	1.022	.391	.061
Trtgroup * Age	266.136	3	88.712	.699	.558	.043
Gender * Age	365.603	2	182.801	1.440	.247	.058
Trtgroup*Gender* Age	183.365	3	61.122	.481	.697	.030
Error	5968.275	47	126.985			
Total	166631.000	66				
Corrected Total	9826.621	65				

a. R Squared = .393 (Adjusted R Squared = .160)

The table.1 shows that there was significant main effect of treatment on ruminating negative thinking behaviour of early participants from the selected universities in Oyo state F (2, 47) = 3.114, p < .05, η2= .547). This implies that there was a significant impact of the treatment in the groups test scores on ruminating behaviour of the participants. Therefore, the null hypothesis which stated that there is no significant main effect of treatment on ruminating behaviour of early participants was rejected; the Table 1 also shows the contributing effect size of 11.7%. For further clarification on the margin of differences between the treatment groups and the control group, Scheffe post-hoc analysis which shows the comparison of the adjusted mean was computed and the result is as shown in the Table 2 respectively.

Table 2: Scheffee post-hoc test showing the significant differences among Treatment Groups and the Control Group on ruminating behaviour of the Participants

Treatment	N	Subset for alpha = 0.05	
		1	2

Self-Compassion Therapy (SCT)	15	44.2667	
Problem Solving Therapy (PST)	21	44.7143	44.7143
Control	30		53.8000
Sig.		.992	.050

From the table 2, it was revealed that the participants that exposed to Self-Compassion Therapy (SCT) (=44.27) had the least mean score while the participants that exposed to Problem Solving Therapy (PST) (= 44.7143) and control group (= 53.80). By implication, Self-Compassion Therapy was more potent in reducing ruminating behaviour of the participants among the university students. The coefficient of determination (Adjusted R^2 = .162) overall indicates that the differences that exist in the group account for 16.2% in the variation of ruminating behaviour of the participants. And there is no statistical significant difference between the experience of participants that were exposed to Problem solving Therapy (PST) (= 44.7143) and the control group (= 53.80) that is, there was no statistical significant difference between participants that exposed to SCT and PST.

Hypothesis Two: There will be no significant main effect of gender on ruminating behaviour of participants in the selected universities in Oyo state, Nigeria.

Table 1 revealed that there was no significant main effect of gender on ruminating behaviour of participants in the selected universities in Oyo state, Nigeria. (F (1, 47) = .320, p > .05, η2= .013). Hence, the null hypothesis was not rejected. This denotes that there was no significant difference on ruminating behaviour of participants in the selected universities in Oyo state, Nigeria.

Hypothesis Three: There will be no significant main effect of age on ruminating behaviour of participants in the selected universities in Oyo state, Nigeria.

Table 1 demonstrated that there was main effect of age on ruminating behaviour of participants in the selected universities in Oyo state, Nigeria (F (2, 47) = 4.002, p < .05, η2= .146). Therefore, the null hypothesis was rejected the Table 1 also shows the contributing effect size of 14.6%. For further clarification on the margin of differences between the age levels, Scheffe post-hoc analysis which shows the comparison of the adjusted mean was computed and the result is as shown in the Tables 4.3 respectively.

Table 3: Scheffe post-hoc test showing the Significant Differences among Age on Ruminating Behaviour of Participants

		Subset for alpha = 0.05		
Age of Participants	N	1	2	3
Young Adults	19	36.5789		
Middle Adults	32		45.1875	
Older Adults	15			55.5333
Sig.		1.000	1.000	1.000

From Table3, the following observations were made:
i. The mean score of young adults was statistically different in reduction of ruminating behaviour of participants among the participants had mean score of 36.5789, middle adults had mean score of 45.1875 and older adults had mean score of 55.5333 respectively.
ii. The mean score of young adults was statistically different in reducing ruminating behaviour compared with middle adults. Young adults had mean score of 45.1875 and middle adults had mean score of 55.5333.
iii. Similarly, significant difference was noticed in the mean score of participants that were young adults (36.5789), older adults had mean score of 55.5333. According to this result, age is germane to reduction of ruminating behaviour of participants. Therefore, participants from young adults benefited most, followed by participants in middle adults and finally followed by older adults in that order in the treatment applied in the study.

DISCUSSION

The first hypothesis tested for no significant main effect of treatments in managing ruminating behaviour of university students. This null hypothesis was rejected as the result of the study showed otherwise. The study are affirmed a significant main effect of treatment in managing ruminating behaviour. Participants that were exposed to self-compassion interventions had better improvements when it compared to those that were not expose to treatment as usual. Participants to self-compassion therapy did better compared to those in problem solving therapy, although this difference was not significant in the management level. Generally, this finding corroborates most of the previous studies where psychological intervention significantly helped individuals with psychological health problems such as depression, bipolar disorder, Alzheimer's disease, etc. Apparently, Christensen et al., (2009) noted that managing ruminating behaviour problem is a psychological issue; and efforts are providing psychological therapies will significantly help in our ameliorating the problem, especially among the students that are busy with academic challenges. Moreover, empirical evidence have generally suggested that behavioural therapies can improve or can be used to manage ruminating behaviour (Andrew et al., 2010; Andrew et al; 2018) which offers a basis for this study that revealed the efficacies of SCT and PST.

The results of this study corroborated the previously conducted related studies by scholars. For instance, SCT was employed among depression patients by Mahoney et al., 2012; McEvoy et al., 2014; McEvoy et al., 2018; Wing et al., 2016) which revealed that the therapy main effect was noticed in Zepherotheonic, physical functioning, vitality and general health, physical health, efficacy of SCT in improving health literacy. Likewise, Beatty & Binnion (2016) concluded based on empirical evidence that SCT is a veritable tool for reducing ruminating behaviour among patients with chronic diseases. The discovered that researchers (Cartwright-Hatton & Wells 1997; Papageorgious & Wells 2001) have found that SCT is one of the psychological therapies that are capable of having lasting effects on the recipients.

Meanwhile that SCT was efficacious in this study and many other cited may not be a surprise because of its unique peculiarities which could serve as justification for these results. SCT has power to ensure that recipients have capacity to regulate and control their actions, feelings, and thoughts towards their ruminating behaviour. Self-regulation and self-care are some of the outcomes of end-result of receiving SCT, either as a group or in individual therapy. Beatty & Binnion (2016) submitted that SCT is capable of making patients with chronic diseases take responsibility for caring for him or herself without the assistance of medical personnel. Moreover, because of its multicomponent nature, the therapy emphasizes the monitoring and regulation of behaviours and reinforcement (rewards) which are highly desirable in behaviour change. The therapy also emphasizes empowering participates on how to engage in self-reinforcement which scholars (such as Papageorgious and wells 2001) have identified as pivotal in changing the behaviour of adults. Thus, SCT imbibe and equip individuals to learn and implement skills that can

help change their own behaviour. All of these points could help suggest to basis for which SCT was found efficacious in managing ruminating behaviour of emerging adults in University in Oyo state.

Similarly, the result of this study that can confirmed problem solving therapy (PST) is in alliance with most of the previously conducted by other scholars. The therapy was found to be effective in decreasing ruminating behaviour as well as quality of life, reducing symptoms of anxiety, anxiety sensitivity, depression, and negative effect. (Watkins, 2008 &Nolen-Hoeksema, 1998). It has also been found efficacious in reduction of ruminating and positive affect (Andrew et al., 2010; Andrews et al., 2018), treatment of depression (Lyubomirsky & Tkach, 2004; Nolen-Hoeksema, 2004), management of migraines, chronic pains and other neuro cognitive disorders (Watkins & Roberts, 2020), as well as reducing rumination and quality of life (Sloan et al., 2021). These related findings showed that this therapy (PST) is consistently efficacious especially among adults. These findings corroborated the fact that PST could be a veritable psychological intervention in addressing the problem of ruminating behaviour among university students suffering from ruminating behaviour.

The result showing the efficacy of PST could be well justified in the sense that ruminating behavioural problem have been argued to step from dysfunctional behaviours and thoughts (Papageorgious & Wells, 2001), which PST typically address. So, a therapeutic approach such as PST is capable of equipping an individual the necessary psychological prowess to effect necessary changes behavioural and thinking patterns as regarding attendance and self-care. The therapy is capable of addressing anxiety and fears that often accompany awareness of being suffering from rumination. Once the anxiety has been adequately taken care of, the affected individual can boldly face the treatment and work to ensure that they enjoy quality life. Therefore, it is thus scholarly correct to assert that PST is embedded with very unique components that make it better appropriate in managing the ruminating behaviour especially among the University students.

The second hypothesis which stated, there was no significant main effect of age or ruminating behaviour of participant in the selected universities in Oyo State, Nigeria. The result shows that age or ruminating behaviour of participant in the selected Universities have a significant effect on ruminating behaviour. This means there is a significant difference in the age of ruminating behaviour of participants in the selected universities in Oyo State, Nigeria. The result indicates that the reduction of ruminating behaviour among participants with younger age recorded lower mean score than their counterparts with middle and older adults. The rejection of this hypothesis lends credence to the substantiation of some researchers that those young adults were most likely to benefit from the therapies, because they are not yet exposed to many problems of life like the middle and old adult. But also those that are middle adults also benefited from the intervention more than those that are older adults (Oliver et al., 2015; Pearson et al., 2008). However, the result of this findings does not lend support to the work of Sloan et al., (2021) who investigated the effects of age on ruminating behaviour among adults in Sunyani municipality, that both young and old adults' people in the municipality were benefited equally. According to him the younger ones were significantly more benefited than the other ones. The acceptance of their hypothesis indicating that age at rumination in the contemporary environment like Ibadan, Oyo state has no significant impact on ruminating behaviour.

The third hypothesis states that there is no significant main effect of gender on ruminating behaviour of participants in the selected universities in Oyo State. The results showed that there was no significant main effect of gender in the post test means scores of ruminating behaviours between male and female participants. Therefore, the hypothesis was accepted. This implies that the issue of gender identity did not influence the ruminating behaviour scores of participants. In the light of this therefore, this development could be premised on the fact that since ruminating behaviour and isolated adults shares familiar social characteristics features, they tend to behave in similar ways and manner depicting uneasiness or apprehension.

Contrary to the findings of this study the meta-analysis carried out by Cook, & Maffei, (2019) identified gender differences in rumination suggesting that women ruminate more than men. As indicated by homogeneity in our sample, this result was consistent across studies and across several commonly cited measures of depressive rumination (Ruminative Responses Scale; Rumination on Sadness Scale; Repetitive Thought Questionnaire; Rumination Reflections Scale) suggesting that the magnitude of the gender difference in depressive rumination does not vary as a result of study design or the measure used. Although statistically significant and robust, the overall effect size of gender on rumination fell in the small effect size range (Cohen, 1988). Our results are consistent with those reported in meta-analysis of the child and adolescent literature (Rood et al., 2009), which found small but significant differences rumination between boys and girls in childhood (d=.14) and adolescence (d=.36), with girls more likely to eliminate than boys. In contrary to define things from this study, results of the current study provides some discrepancies for the basic tenets of the ruminating behaviours based on gender, but also suggest that the gender difference in rumination is limited in magnitude.

Conclusion

Based on the findings of this study, it was concluded that, Self-Compassion Therapy and Problem-solving Therapy were effective in the reduction of ruminating behaviour of participants (among university students) in universities in Oyo State, Nigeria. It is expected that proper applicationof these intervention programmes should yield similar result in future. On the potency of the treatment intervention, Self-compassion therapy was more effective in the reduction of ruminating behaviour compared to problem solving therapy. Gender has no significant effect on the ruminating behaviour of the participants used in the study while age of the participants was significant in reduction of ruminating behaviour among the participants with young adults benefited tremendously in the treatment more than middle adults and older adults in that order respectively.

Recommendations

The following recommendations are made based on the findings of this study.

1. An orientation programme for fresh students coming into the university in Oyo state is recommended. Self-compassion and problem-solving therapies should be an integral component of the orientation programme which should be anchored by qualified counselling psychologists. This kind of training at the inception/resumption to school is very critical as it would equip the fresh students' with skills needed to cope in the school and outside the school environment.
2. The findings of this study should be of interest to professionals i.e., counselling psychologists, social welfare workers, and social health workers et cetera; who could use the empirical data provided by this study to help students in promoting healthy social activities in their various campuses Oyo State and Nigeria at large.
3. The serious need for counselling services has been revealed in this study which calls for appropriate attention. The policy makers and the government at all levels should give counselling services a significant position in the society and make jingles that will constantly educate the people of the nation on the importance of counselling and the challenges of ruminating behaviour among the students. This will help the students to consider counselling as a helping service and encourage them to respond when the call comes.
4. The government should also encourage professional counsellors to open counselling clinics in the cities, as obtained in the field of medicine, to provide opportunities for every individuals to receive counselling helps. More counselling psychologists should be employed and encouraged so as to meet the growing challenges of the stress, depression and at large ruminating behaviour.

5. The finding of this study indicates that age of the participants has significant effects on ruminating behaviours among participants. This suggests that the aged one among the students should be monitored very well so that they can live a healthy life. It is therefore left to parents, guardians and other significant others, in the lives of students both on campus and outside the campus to inculcate and internalize virtues that promote sanctity amongst the students.
6. The counselling psychologists should wake up to the challenges of the students particularly in the growing complex world we now live in. Parents, religious leaders and community elders should step up their activities and educate the students on the essence of non-partaking in negative thought that will not allow them to concentrate on their studies.

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