

Application of Computerized Treatment Program Based on ACT In Improving Adult Female Depressive Disorder

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Abstract: Adult women are one of the high-risk groups of depressive disorder. How to reduce adult women's depressive disorder depends on people. With the development of computer technology, many researchers have paid attention to the new model of using computerized treatment programs to improve depression.

Based on the six core intervention techniques of ACT, this study designed a computerized treatment program for depression. It also discusses the support provided by computer data processing software in the field of psychotherapy with the development of computer science and electronic information technology.

Keywords: ACT computerized treatment program computer data processing software female depression.

1 INTRODUCTION

With the development of computer science, more and more researchers are exploring the new model of computerized treatment for depression, making this field a frontier and hot spot in the field of western psychotherapy research.

Acceptance and Commitment Therapy (ACT) was proposed by American therapist Steven C. Hayes in the early 1990s [1]. As one of the third generation behavioral therapy theories based on mindfulness technology, this therapy is based on functional contextualism and empirical research on the basic nature of human cognition and language, aiming to improve psychological flexibility by balancing acceptance and change.

Adult women suffer from more and more depressive disorders, which requires prediction and intervention [2]. Depressive disorder mainly refers to the depression and anxiety generated by the patient's psychology, the lack of enthusiasm in life, the always unhappy, the lack of interest, the feeling of being alive and so on. ACT, namely "Acceptance and Commitment Therapy", is the most representative empirical behavior therapy in the new generation of cognitive behavior therapy [2]. Through mindfulness, acceptance, cognitive dissociation, taking self as the background, clarifying value and commitment to action, and flexible and diverse treatment technologies, ACT helps clients enhance their psychological flexibility and invest in a valuable and meaningful life. At the same time, ACT has its own psychopathological model and psychological flexibility model, as shown in the following figure:1, as shown in the following figure1:

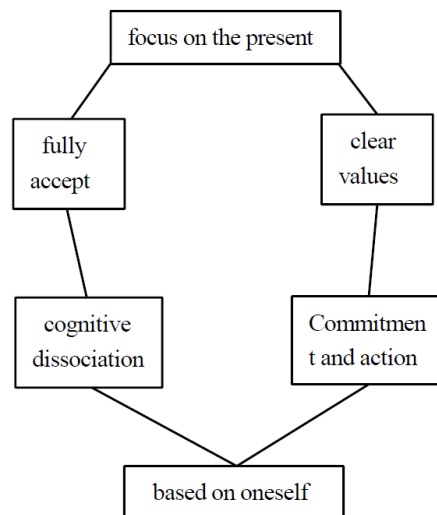


Figure 1: Figure ACT psychological flexibility model

Based on the six core intervention technologies of ACT, this study designed a computerized treatment program for depression [4]. The intervention procedure is divided into six units: (1) Depression is not terrible, see the truth of depression; (2) Refuse to escape and accept what you cannot change; (3) Cognition to integrate, improve and control your life; (4) Self awareness, become your own psychological observer; (5) Live in the moment and practice mindfulness; (6) Live with your own values and commit to action. And with the development of electronic information technology and computer science, their applications in the field of psychology are increasing [3]. Suppose that the measurement score of intermediate variable also changed significantly: AAQ ($F(3,285)=3699, p<0.001, \eta^2=0.28$); AFQY ($F(3,285)=38.11, p<0.001, \eta^2=0.29$); ATQ ($F(3,285)=784, p<0.001, \eta^2=0.08$); ATQB ($F(3,285)=773, p<0.001, \eta^2=0.45$); DAs ($F(3,285)=6128, p<0.001, \eta^2=0.39$). Further investigate the effect of outcome variables and hypothetical intermediary variables after 3 months (compared with the baseline level). The results showed that the scores of BD ($d=0.96$) and ATQ-B ($d=0.81$) had a greater effect; In MHC-SF ($d=0.31$), AAQ ($d=0.67$), AFQY ($d=0.53$) and DAS ($d=0.71$), the effect was moderate; So what is the role of computer science in the treatment of depression? When we process data, such as excel, spss, eprim, process, c language and other computer statistical software have played a great role.

At present, the more common experimental data processing software includes Excel software, origin software C-free software, etc [3]. Excel software is a data processing software that college students are familiar with and widely used. Or igin software is a data analysis and graphic visualization processing software [4], and C-free software is generally used for calculation [3].

At present, few researches on depression disorder at home and abroad have applied ACT, and there is little discussion on the computerized treatment program based on this therapy, as well as the role of computer science and technology in the data processing of this experiment. In this study, ACT was used to improve the prediction and intervention of adult female

depressive disorder, and the role of computer software was discussed. The specific research contents are as follows:

①Tools and materials: computer data processing software, tools required for intervention; SDS Questionnaire

②Steps: select ACT intervention for 1 month and 3 months of the lagging behavior period, and the intervention method is group assisted therapy (group assisted therapy once a week); moreover, compare the improvement of depression after intervention with the control group, that is, conduct SDS questionnaire measurement at the same time to check the improvement; The data and content of the results obtained from the experiment and questionnaire are collated and analyzed. As shown in [Figure 2](#):

③Questionnaire results:

Gender	Grade	family atmosphere	marital status	Home location	SDS	SDS	SAS	SAS
2	5	5	1	2	4	4	4	4
2	3	5	1	1	4	4	5	4
1	5	4	1	2	4	3	3	4
1	5	3	1	2	3	3	4	3
2	5	3	1	1	3	1	2	3
2	5	3	1	1	3	3	3	4
1	5	4	1	1	3	4	4	5
1	5	3	2	1	4	4	2	3
2	5	3	1	2	1	1	3	3
2	5	2	1	2	5	3	3	3
1	5	1	1	1	3	1	4	4
2	5	4	1	1	4	4	4	4
1	5	4	1	2	4	4	5	5
1	5	4	1	2	5	5	5	4
1	5	5	1	1	1	1	1	1
2	5	5	1	2	2	1	3	3
2	5	4	1	1	2	3	4	4
2	5	4	1	2	3	3	3	3
2	5	3	1	1	3	4	3	4
2	5	4	1	1	4	4	4	4
1	5	5	1	1	1	2	3	1
2	3	4	1	2	3	3	3	3
2	5	5	1	2	1	1	1	1
2	5	5	1	1	1	1	5	4
2	5	3	1	1	3	4	4	4

Figure 2: Figure Questionnaire results

Data processing:

Excel, SPSS, etc. are used to decentralize and virtualize the above data. According to the above data, Excel 2010 software is used for curve fitting. Similarly, according to the above data, the origin 8.5 software is used for curve fitting [4]. Use C language to write a complete program, and use the program to process the experimental data. Especially, use C language to carry out the program of data straight line fitting. The calculated slope of the fitting straight line is 2.095888×10 . The intercept of the fitting straight line is 1.000 026, so the fitting straight line of the experimental measurement data is $n=2.095 888 \times 10$, $P + 1.000026$. In this

ACT intervention study on adult female depression, the obtained data were processed by using the computer data processing software Mplus, and the intermediary model of related factors was tried to establish. The specific programming code is as follows:

VARIABLE:

NAMES ARE NU A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15;

USEVARIABLES = A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12;

ANALYSIS:

TYPE = GENERAL;

ESTIMATOR = ML;

BOOTSTRAP = 1000;

MODEL:

The subjects were selected.

With the method of convenient sampling, 60 adult women with depression in Nanchang City (with more equal degree of depression) were selected as the research subjects, and were equally divided into two groups [5]. The experimental group was 30 adult women with depression who were intervened with ACT, and the control group was 30 adult women with depression whose physical age matched the experimental group [5].

1.1 Experimental design:

① A single variable inter subject experiment design was adopted. In this experiment, the independent variable is subject A (intervention A1, non-interference A2) whether to use ACT to intervene in adult depressed women.

② In this study, the improvement degree B of their depression was taken as the dependent variable, and the depression measurement result of their SDS questionnaire was taken as the observation index of the dependent variable.

③ The computer and ACT are combined to form a six step program of computerized therapy. And apply it to this study.

④ Research methods:

Tools and materials: tools required for intervention (i.e. group assistance); SDS Questionnaire
Steps: select ACT intervention for 1 month and 3 months of the lagging behavior period, and the intervention method is group assisted therapy (group assisted therapy once a week); moreover, compare the improvement of depression after intervention with the control group, that is, conduct SDS questionnaire measurement at the same time to check the improvement [6]; The data and content of the results obtained from the experiment and questionnaire are collated and analyzed.

2 Forming research conclusions:

The study will compare and analyze the depression improvement of the two groups after one month or three months of intervention [7]. It is helpful to better understand the factors of adult female depressive disorder, provide a better theoretical basis for the ability to improve adult female students' depressive disorder through ACT, and provide a powerful reference for clinical prediction, treatment and improvement of depressive disorder.

3 Research Purpose

This study discusses the computerized treatment of adult female depression based on ACT, so as to analyze the improvement of adult female depression under the intervention of ACT, and further provide more intervention methods for the study of adult female depression, and better apply ACT to the treatment of adult female depression, thus reducing and treating more patients with depression [8].

Usually, computer software programs are used in the analysis and processing of psychological data [8]. This study combines computer science with psychotherapy to explore more computerized treatment programs.

3.1 Psychological Significance

At present, there are many studies on the factors of depressive disorder groups, but there are few studies on the measurement intervention of ACT in depressive disorder, that is, the prediction intervention through ACT to improve the depressive disorder of adult women, and this study reveals that the prediction intervention based on ACT for depressive disorder of adult women is not a single study on the cause of depressive disorder [9].

3.2 Significance In Computer Science

In modern education, more and more attention is paid to the application of new science and technology. Computer science and technology have made great contributions to today's modern education, showing good advantages in the reception of knowledge and information and the integration of resources. Database technology will inevitably infiltrate into the new field of psychological application.

4 Research Methods

In this study, computer tests, questionnaires, experiments and measurements were used.

The questionnaire method is used to screen adult female depressive disorder, so as to understand some basic information of adult female depressive disorder, including gender, age, marital status, education level, etc [10]. The experimental group and control group are treated by experiment and measurement methods. As shown in the following [figure 3](#):

Subjects	Before intervention	Intervention for one month	Intervention for three months
experience group	OA1B1	OA1B2	OA1B3
control group	OA2B2	OA2B2	OA2B3

Figure 3: Figure Research methods in this paper

5 Conclusion

In modern society, people are under great pressure, and more and more people have serious psychological problems. Electronic information technology and computer science play an indispensable role in the field of psychology [11]. Based on the computerized treatment intervention research of ACT to improve adult female depressive disorder, this paper combines acceptance commitment therapy with computerization to form an intervention treatment program and experimental method based on the vision of computer science and electronic information technology. The full application of computer science in the field of psychology provides a new perspective for exploring and improving the depressive disorder of adult women, which is conducive to better solving the problem of depressive disorder of adult women.

With the rapid development of science and technology, computer software has been gradually applied to the processing of experimental data of chemical engineering principles. The experimental data processing in this way can show these data more clearly, and the use of computer software can effectively improve the difficulty of subsequent drawing and analysis, helping the experimenters to better find the data laws.

However, there are few studies on ACT and computerized therapy to improve adult female depression. And flowers that want more significant effects need to be tracked for a longer time. How to better design the experimental program, how to better apply electronic information technology and computer science to the study of adult female depression, and how to improve and solve the problem of depression need more researchers to explore together. Eliminate practical solutions for truly solving depression. The role of ACT and computerized therapy in the psychological field will be expanded.

6 Research Innovation

At present, there are many researches on depressive disorder at home and abroad, but there is a lack of research on adult female depressive disorder. In addition, this topic applies ACT combined with computerized therapy to the research on adult female depressive disorder, and it is novel and innovative to study the prediction of ACT for improving adult female depressive disorder.

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