

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



Relationships between Locus of Control and Adherence to Diabetes Regimen

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Locus of Control

*The locus of control theory was developed by Rotter in 1966

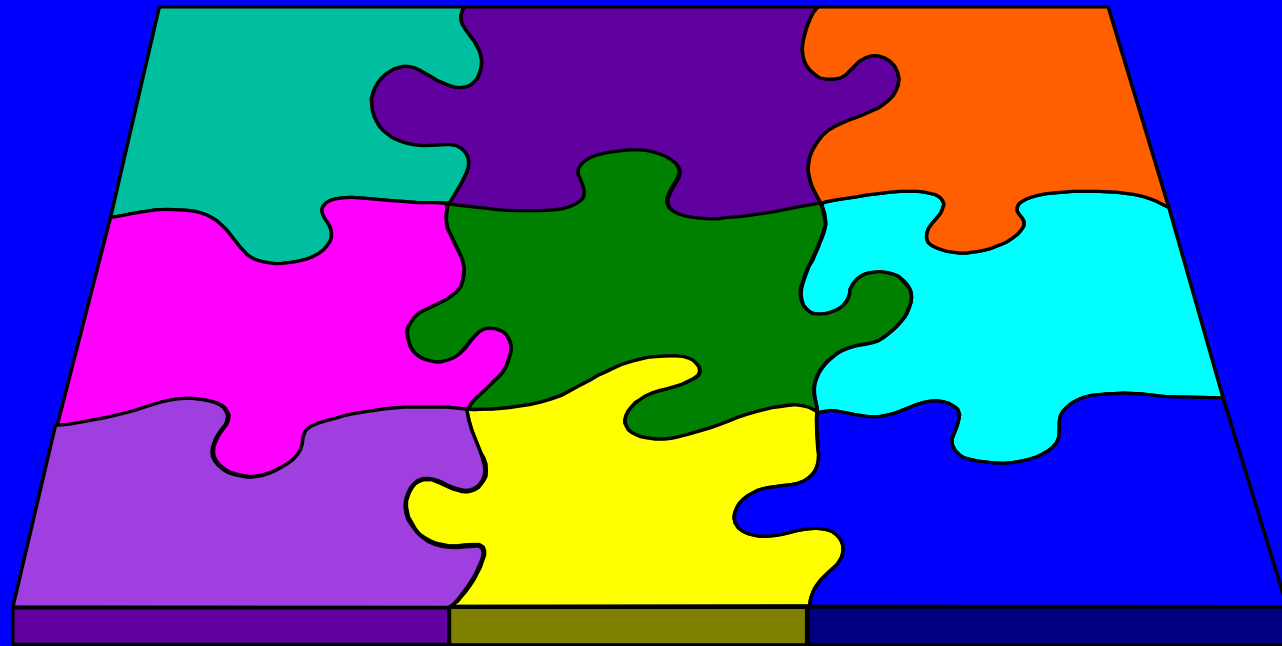
* It was first measured in Rotter's internal–external [I–E] scale

What is Locus of Control?

- Locus of Control refers to how a person perceives the cause of life events.
- Important concepts in understanding locus of control are “internal” and “external” as it relates to success and failure.

Internals see. . .

- A strong relationship between what they do and what happens to them.



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Internals . . .

People with an internal LC tend to accept responsibility as well as credit for their actions.

In general, this attitude generates high motivation, effort, perseverance, and willingness to take risks.

Internals . . .

- Generally perceive themselves as responsible for certain occurrences---the person's actions have a direct bearing on the result.
- For example, an internal would see success as resulting from skills, intelligence, a nice personality, and other stable, personal factors.

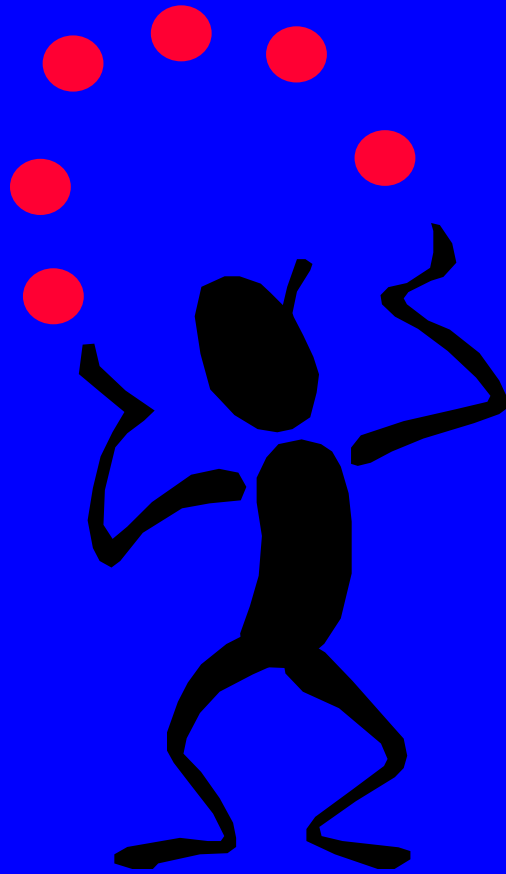
Internals . . .

- Tend to take personal responsibility for what happens to them



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An internal believes

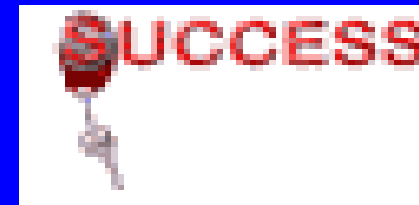


- She has control of her own fate or destiny

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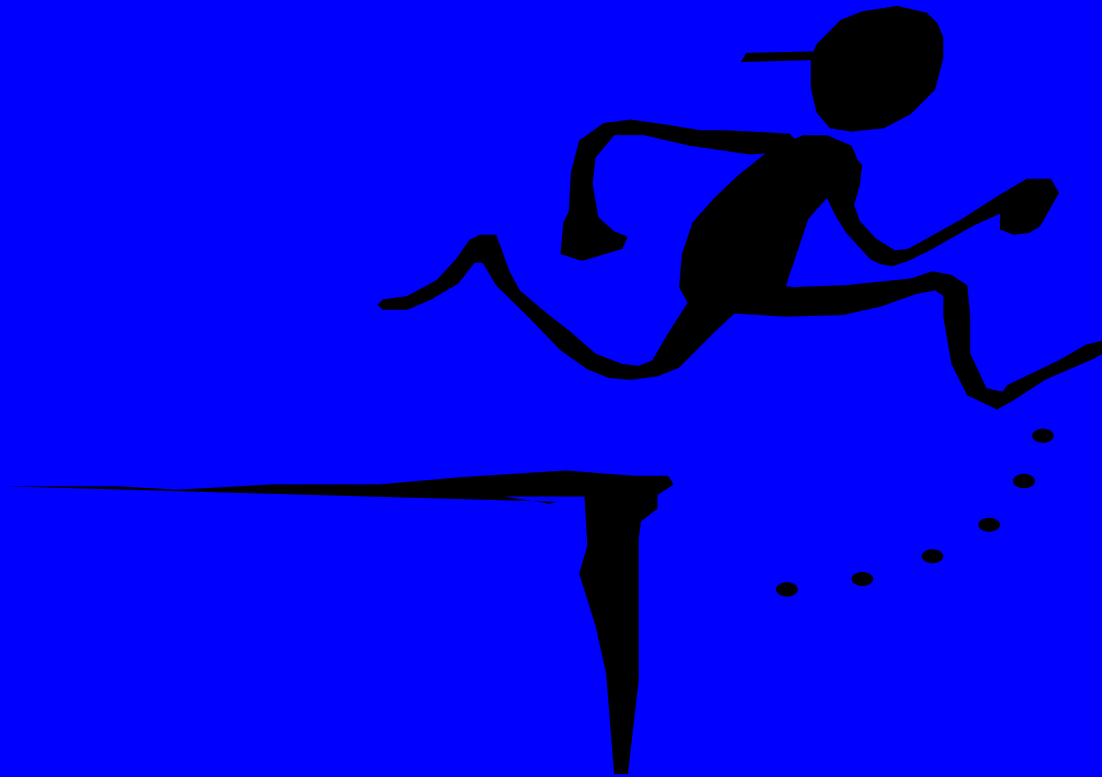
Success

- Success is more likely with all these qualities present.
- It's important, however, to understand and accept one's limits.
- It's equally important not to give up without doing one's best.



If an internal were laid off . . .

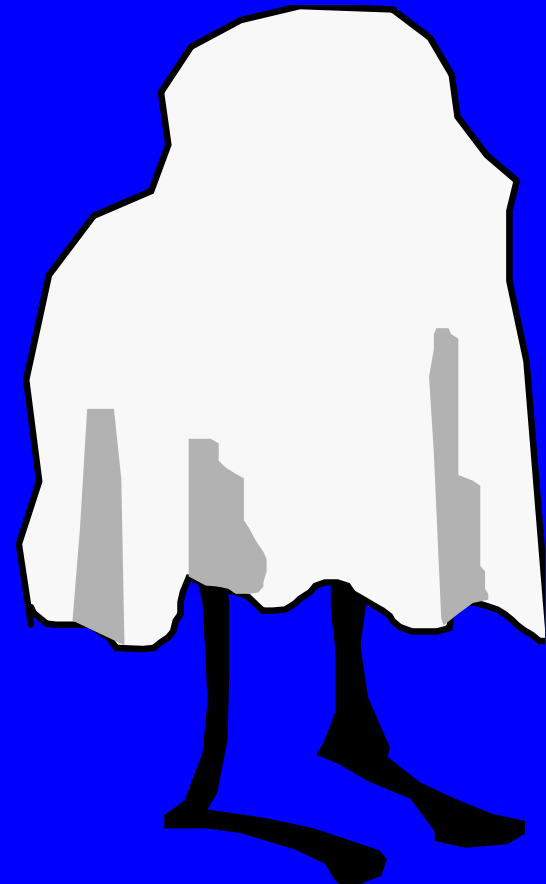
- Because of an economic recession. . .



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The internal might feel . . .

- Responsible for the lay-off even though he couldn't possibly have control over such economic factors.



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Externals tend to

- Believe that the causes of behavioral consequences are in the environment.

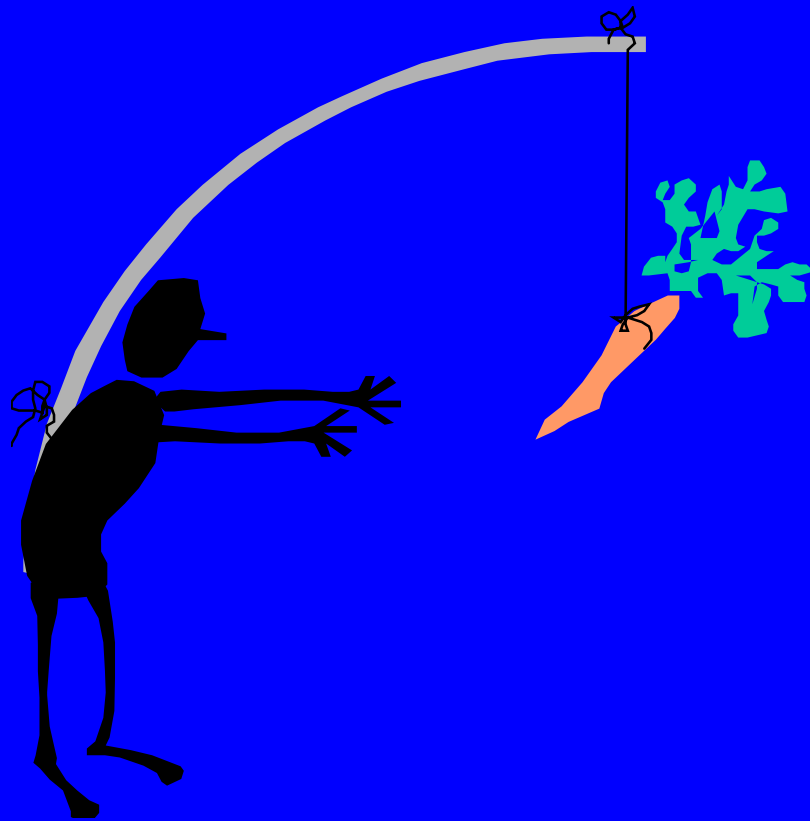


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Externals . . .

- People with an external locus of control would often blame or thank fate, destiny, luck, society, or some other force beyond their personal control.

Externals see themselves as controlled by . . .



- Luck
- Others
- Destiny

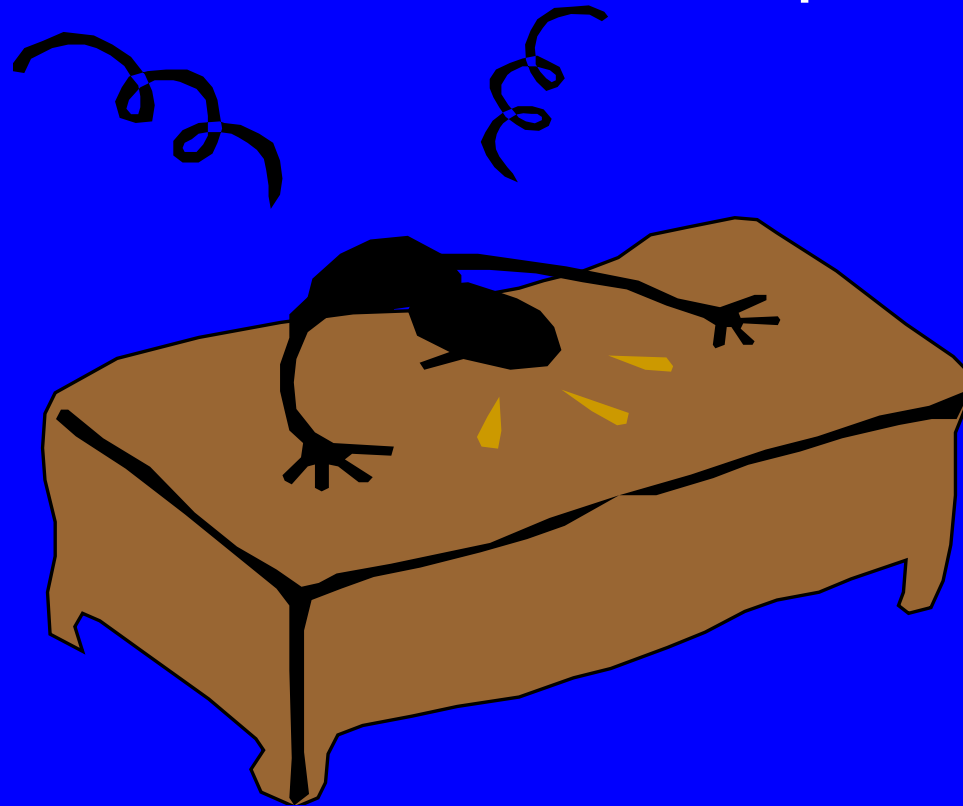
Success/Failure

- People with external LC tend to view themselves as participants in life who have no say over what happens.
- They may view themselves as a helpless participant in a fate determined by random circumstances.



If such a person were fired

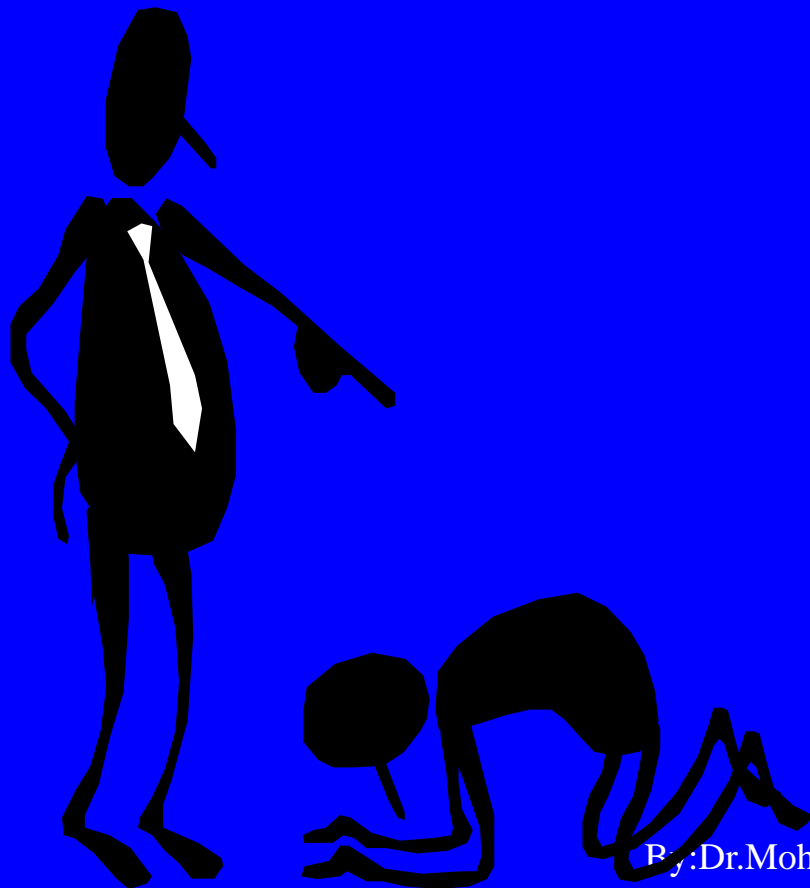
- due to lack of effort or incompetence



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▪ He would likely blame other factors . . .

- Boss's prejudice
- Co-workers' attitudes



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*The external orientation has been divided into “powerful others” and “chance” by Wallston & Wallston .

*They developed the Multidimensional Health Locus of Control (MHLC) Scales in 1978

*In 1999, Vanessa Malcarne expanded the MHLC by adding the God Locus of Control

Diabetes mellitus is a major health problem in all nations

It is crucial that individuals with diabetes follow a strict treatment regimen in order to maintain control over their blood sugar

The diabetes regimen consists of various behavior and lifestyle changes for incorporating diet, exercise, blood glucose monitoring and medication usage in one's daily life

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in order to increase adherence to the diabetes regimen, it is important to determine what predicts an individual's ability to maintain the treatment objectives

Various psychosocial variables have been previously examined to determine their influence on adherence to the diabetes regimen

The health locus of control theory is used to assess adherence to diabetes regimen in some studies

According to Rodin, a person perceives more control over their health when the locus of control is internal than when the locus of control is external

In a study, by Macrodimitis et al. high-perceived control has a beneficial affect on individuals with type 2 diabetes, as demonstrated by lower HbA1c levels

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Since these studies were conducted in western countries and there is no support for these findings from developing countries, it was found to be beneficial to examine the relationship between locus of control and adherence to diabetes regimen in a developing country

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Study Type: This was a cross-sectional study

Sample: A non-probability sample consisted of 120 diabetic patients at Yazd Diabetes Research Center

Instrumentation

A demographic data form

Diabetes Locus of Control scale

Diabetes self-care activities scale

Diabetes Locus of Control scale

These statements refer to how you feel about your control of diabetes. Circle a number to the right of each item to reflect how much you **agree** or **disagree** with each statement.

On these scales

6 = strongly agree

5 = moderately agree

4 = agree slightly

3 = disagree slightly

2 = moderately disagree

1 = strongly disagree

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If I take the right actions, I can keep my diabetes in control I	1	2	3	4	5	6
If I avoid diabetic complications, it's because of my efforts. I	1	2	3	4	5	6
No matter what I do, my diabetes is likely to go out of control C	1	2	3	4	5	6
No matter what I do, I'll probably develop diabetic complications C	1	2	3	4	5	6
When my diabetes goes out of control, it's usually by accident C	1	2	3	4	5	6
The main thing which affects whether I will develop diabetic complications is what I do for myself	1	2	3	4	5	6
If I take care of myself, I can minimise diabetic complications	1	2	3	4	5	6
If I'm able to avoid diabetic complications, it's because other people (for example, doctors, nurses, family, friends) have been taking good care of me.	1	2	3	4	5	6
My family has a lot to do with whether or not I will develop diabetic complications P	1	2	3	4	5	6
Having regular contact with other people who have diabetes is the best way for me to avoid developing diabetic complications	1	2	3	4	5	6
Having regular contact with my doctor is the best way for me to keep my diabetes in control.	1	2	3	4	5	6
The main thing which affects my diabetic control is what I do for myself	1	2	3	4	5	6
If my diabetes goes out of control, it is my own behaviour which determines how soon I get back in control again.	1	2	3	4	5	6
Most things that affect my diabetes happen by accident	1	2	3	4	5	6
When I'm able to keep my diabetes in control, it's because other people (for example, doctors, nurses, family, friends) have been taking good care of me.	1	2	3	4	5	6
My family has a lot to do with my diabetes being in control or out of control P	1	2	3	4	5	6
If it's meant to be, my diabetes will stay in control	1	2	3	4	5	6
Avoiding diabetic complications is largely a matter of good fortune	1	2	3	4	5	6

Diabetes self-care activities scale

The questions below ask you about your diabetes self-care activities during the past 7 days. If you were sick during the past 7 days, please think back to the last 7 days that you were not sick.

Circle the number that applies to the **number of days** that you carried out the activity

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On how many of the last SEVEN DAYS have you followed a healthy eating plan ?	0	1	2	3	4	5	6	7
On average, over the past month, how many DAYS PER WEEK have you followed your eating plan?	0	1	2	3	4	5	6	7
On how many of the last SEVEN DAYS did you eat five or more servings of fruit and vegetables?	0	1	2	3	4	5	6	7
On how many of the last SEVEN DAYS did you eat high fat foods such as red meat or full-fat dairy products?	0	1	2	3	4	5	6	7
On how many of the last SEVEN DAYS did you participate in at least 30 minutes of physical activity? (continuous activity, including walking)	0	1	2	3	4	5	6	7
On how many of the last SEVEN DAYS did you participate in a specific exercise session (such as swimming, walking, biking) other than what you do around the house or as part of your work?	0	1	2	3	4	5	6	7
On how many of the last SEVEN DAYS did you test your blood sugar?	0	1	2	3	4	5	6	7
On how many of the last SEVEN DAYS did you test your blood sugar the number of times recommended by your health care provider?	0	1	2	3	4	5	6	7
On how many of the last SEVEN DAYS did you take your recommended insulin injections?	0	1	2	3	4	5	6	7
On how many of the last SEVEN DAYS did you check your feet?	0	1	2	3	4	5	6	7
On how many of the last SEVEN DAYS did you inspect the inside of your shoes?	0	1	2	3	4	5	6	7
Have you smoked a cigarette - even one puff - during the past SEVEN DAYS?	0 = No. 1 = Yes - please answer the next question							
If yes, how many cigarettes did you smoke on an average day?	No. of cigarettes =							

Results

*The 120 study participants ranged in age from 17 to 73 (mean = 53.28, SD = 10).

*The majority (60.8%) were female.

*All were married.

*Their education levels were 33.3% illiterate, 17.5% had reading and writing ability, 27.5% had primary school education and 21.7% had higher than primary school education.

*Most of the subjects were housewives (60.8%).

*The majority of the participants (82.5%) had type 2 diabetic and the rest had type 1 diabetic.

*The duration of diabetes ranged from three months to 30 years, with 9.8 as the average age and 6.8 as the standard deviation

Ranges, Means, and Standard Deviations for Adherence to diabetes regimen and Locus of control Subscales scores

Variables	Possible Range	Observed Range	Mean \pm S.D
Adherence to regime	0-77	0-77	48.4 \pm 10.0
Internal LOC	0-30	13-30	26.6 \pm 3.2
Powerful others LOC	0-30	13-29	23.2 \pm 2.6
Chance LOC	0-30	0-29	9.4 \pm 6.6

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Means and Standard Deviations for Locus of control Subscales Scores by Gender, Type of Diabetes and Subject's Job

Variables	Values	Internal LOC	P value	Powerful others LOC	P value	Chance LOC	P value
Gender	Female	26.05 ± 3.13	0.001	23.36 ± 2.67	N.S	11.08 ± 7.49	0.004
	Male	27.57 ± 3.13		22.97 ± 2.66		6.78 ± 4.01	
Type of Diabetes	Type1	26.38 ± 2.99	N.S	23.47 ± 2.35	N.S	10.33 ± 7.19	N.S
	Type2	26.70 ± 3.26		23.16 ± 2.37		9.24 ± 6.57	
Job	Employed	27.27 ± 4.02	0.008	23.18 ± 2.68	N.S	7.09 ± 3.40	0.000
	Self Employed	27.80 ± 2.06		22.88 ± 2.72		5.60 ± 3.04	
	Housewives	26.06 ± 3.15		23.34 ± 2.67		11.45 ± 7.49	

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Correlations among variables

Constructs	1	2	3	4	5	6
1. Adherence to regimen	1					
2. Internal LOC	0.278**	1				
3. Powerful others LOC	0.156	0.218*	1			
4. Chance LOC	-0.191*	-0.181*	0.1	1		
5. Age	0.178	0.124	-0.181*	-0.230*	1	
6. Duration of Diabetes	0.177	0.098	-0.048	-0.072	0.359**	1

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Results of the Regression Analysis of Internal and Chance locus of control as Predictor of adherence to diabetes regimen

Predictor	F	Beta	R ²	P value
Internal LOC	6.351	0.252	0.098	0.006
Chance LOC		-.145		0.107

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A positive association between internal locus of control and adherence to diabetes regimen was found

and there was a negative association between chance locus of control and adherence to diabetes regimen

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These findings suggest that interventions aimed at improving internal locus of control may improve adherence to diabetes regimen but different diabetic patients have different attributional style.

Counselors and educators should attend to the locus of control in their interventional courses and programs.

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The following activities will enhance internal locus of control attribution and could be used in interventional programs.

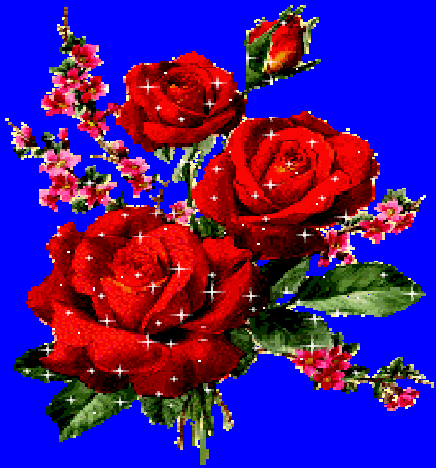
***Providing situations which may encourage diabetic patients for adherence to regimen.**

***Enhancing patients' knowledge regarding the diabetes regimen.**

***Providing positive feedbacks to patients for their small successes, as any feeling of success may make them feel that they are in control of their illness.**

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Thanks for your attention



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