

Move More Douglas County

Moving Through Stages of Change Toward Diabetes
Prevention & Management

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MPH Candidate

Funding

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Outline

- Overview of prediabetes and type 2 diabetes
- Prediabetes and type 2 diabetes management
 - Physical activity
- Move More Douglas County - APE
- Transtheoretical model of behavior change (TTM)
- Products and TTM
- Competencies
- Acknowledgments

Defining Type 2 Diabetes & Prediabetes

- **Type 2 Diabetes**

- Hyperglycemia
- Impacts body's ability to process food for energy
 - Specifically, insulin function

(CDC, 2024a)

- **Prediabetes**

- Blood glucose levels are elevated but not enough to be in the type 2 diabetic range

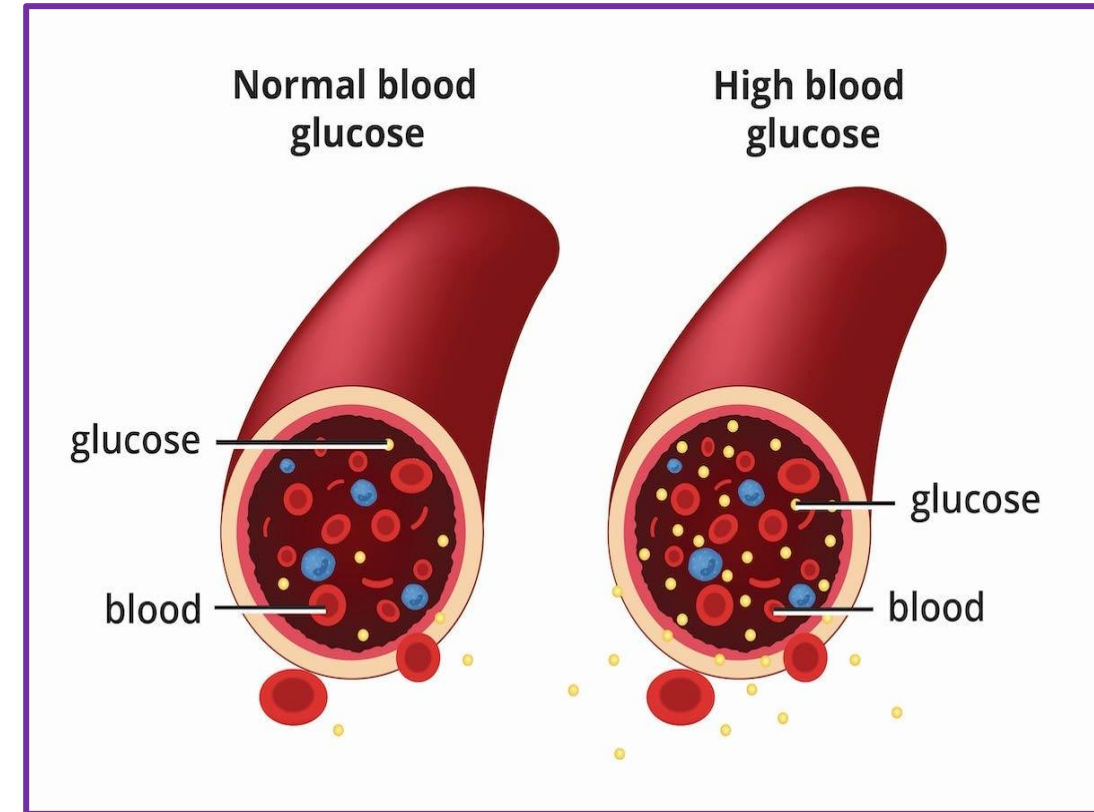
(ADA, n.d.b)

- **Insulin**

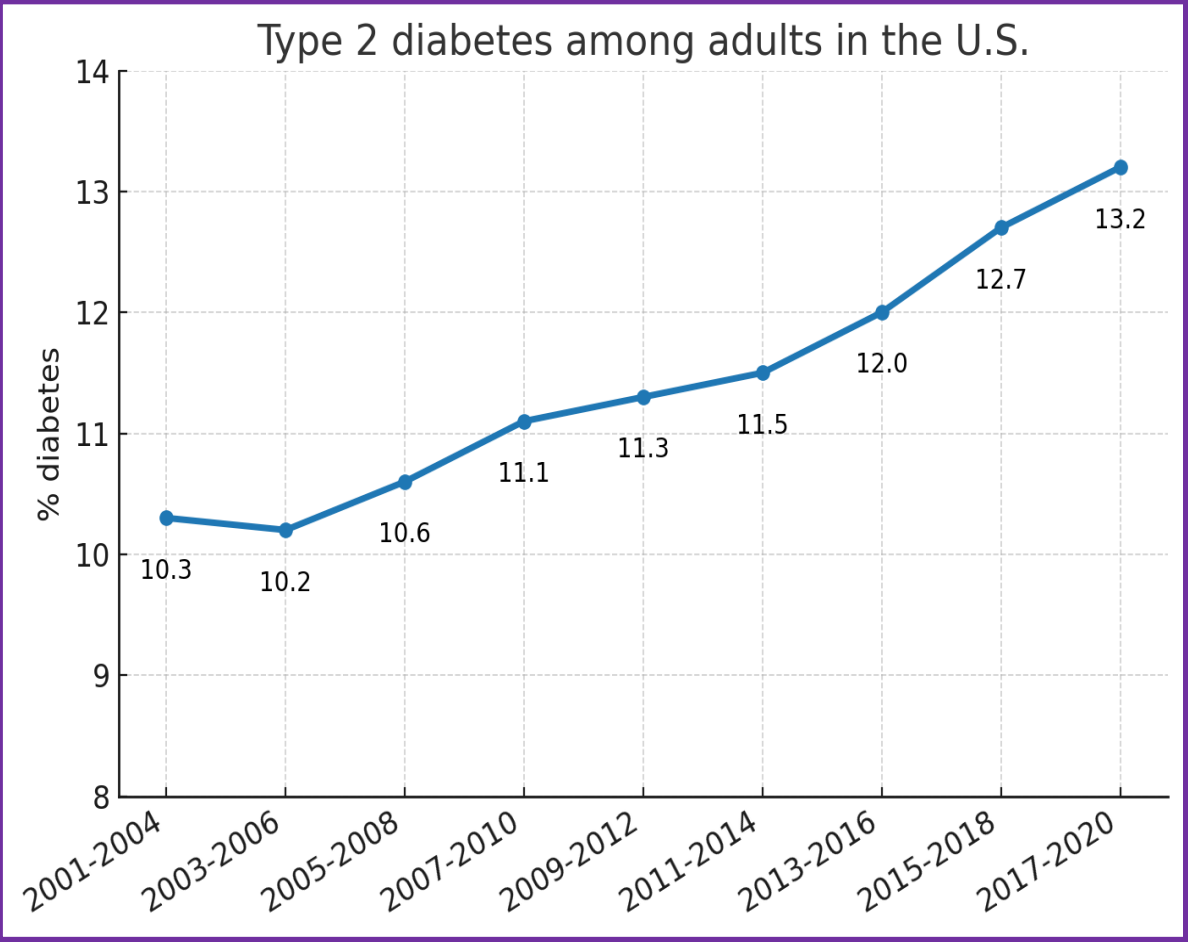
- Hormone that helps glucose enter the cell for energy
- Limited production and/or resistance

(Rahman et al., 2021)

- Results in glucose that cannot enter cells and accumulates in blood stream (NIDDKD, 2023)



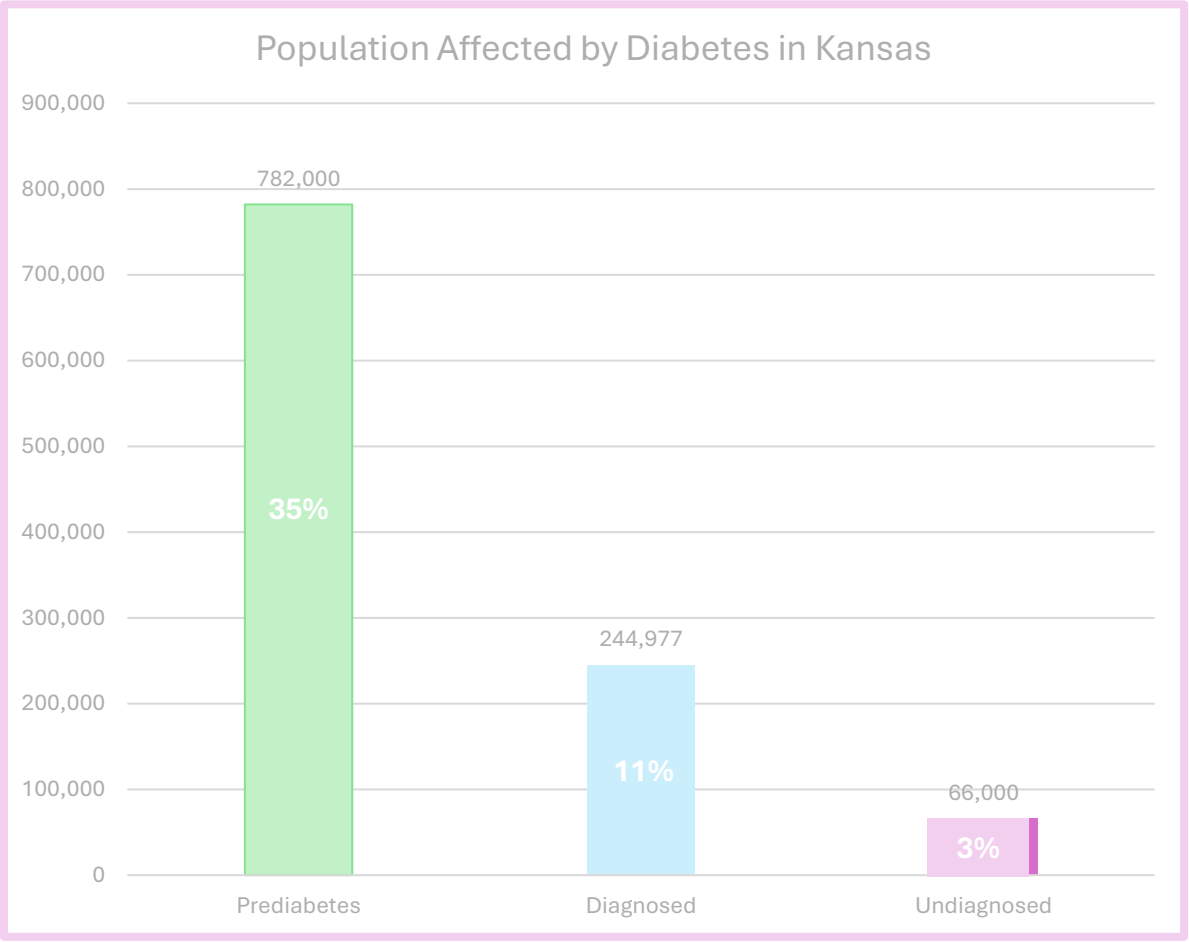
Diabetes in the U.S. & Kansas



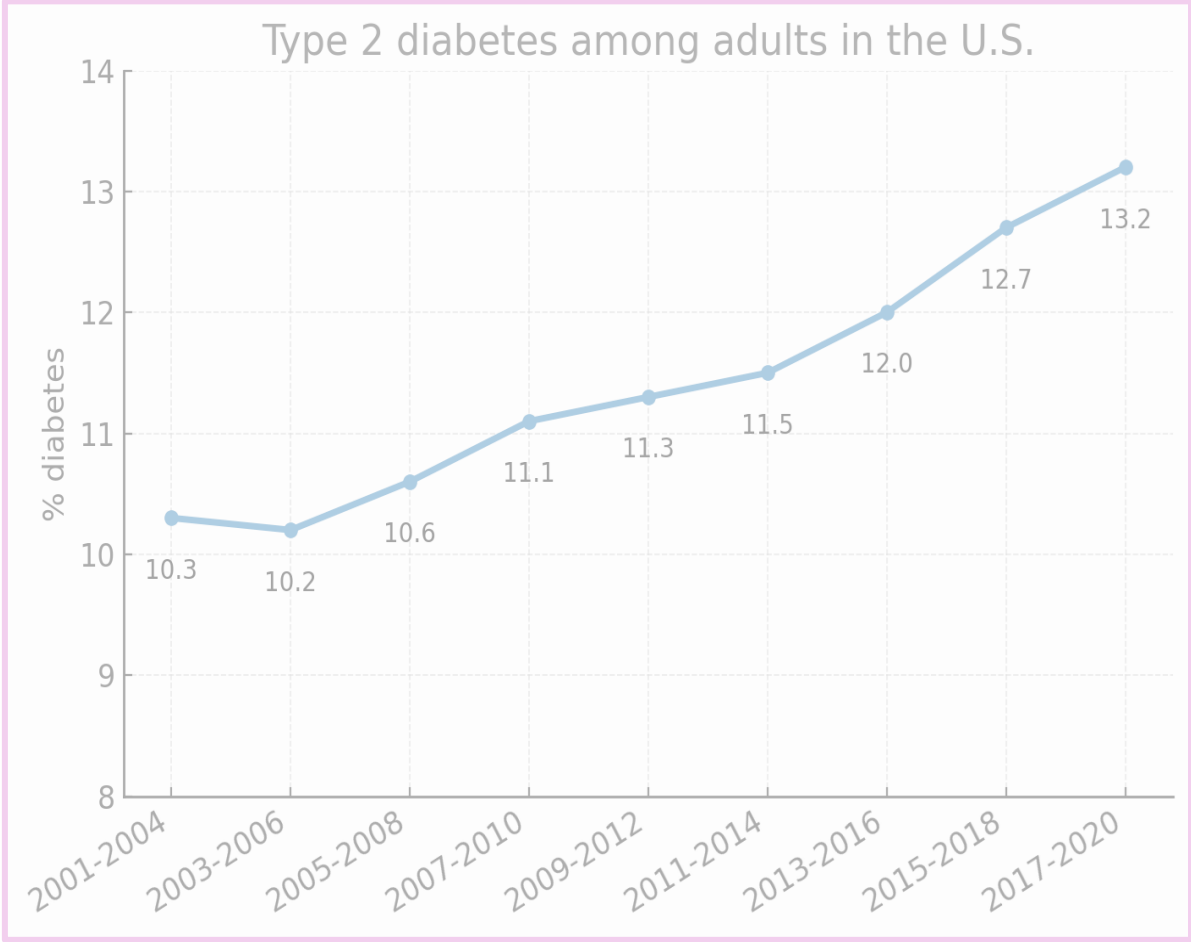
36.4 million adults in the U.S. have type 2 diabetes

38% of U.S. population is living with prediabetes

(ADA, 2022; CDC, 2024b)



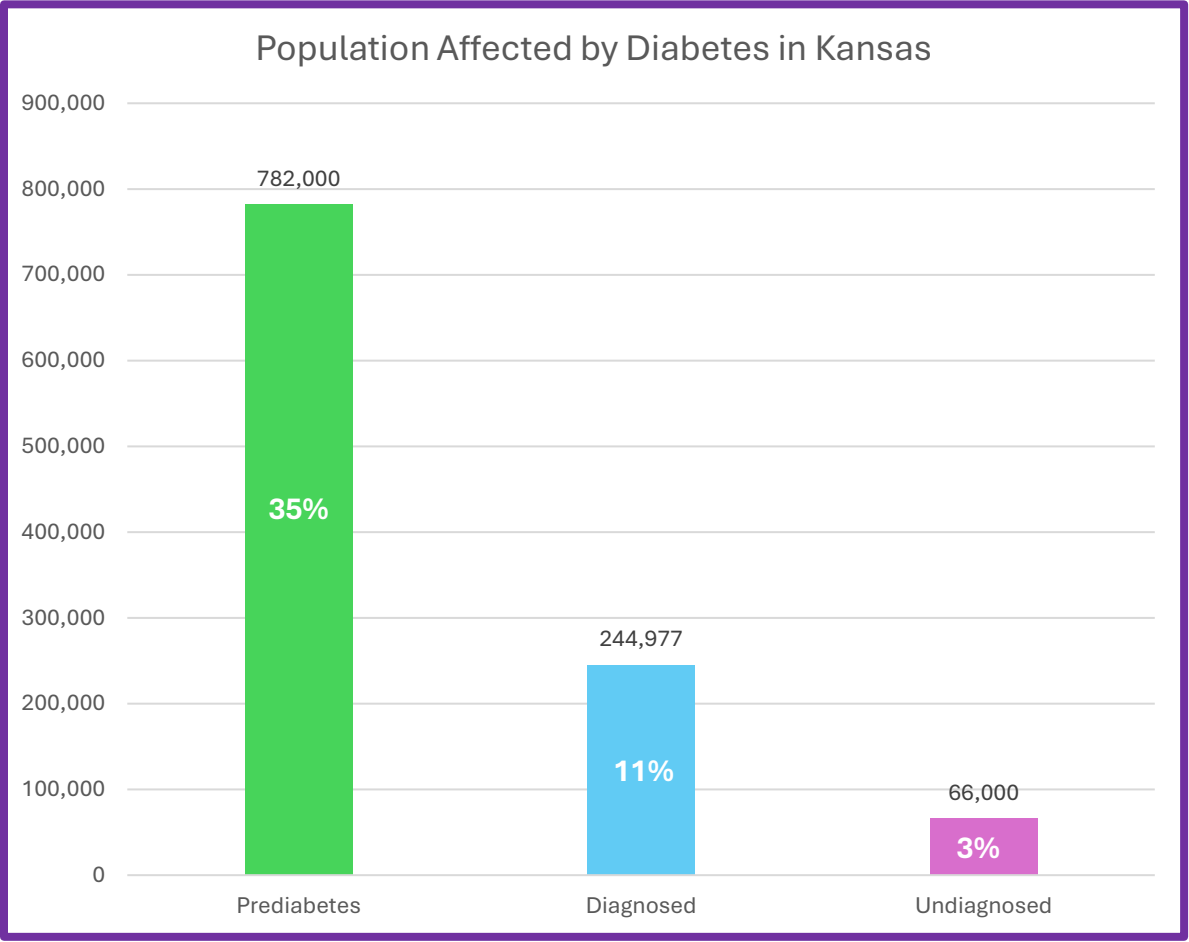
Diabetes in the U.S. & Kansas



36.4 million adults in the U.S. have type 2 diabetes

38% of U.S. population is living with prediabetes

(ADA, 2022; CDC, 2024b)



Managing Diabetes

Risks of unmanaged diabetes

Heart disease
Stroke
Kidney disease
Eye disease (blindness)
Foot problems (amputations)
Diabetic neuropathy
Early death

(ADA, 2023a; ADA, n.d.a)

Primary ways to manage diabetes

Glucose lowering medication
Eating habits
Physical activity

(Cavallo et al., 2023; Yeh et al., 2023)



Physical Activity & Diabetes

- Physical activity can help reduce the amount of time in a hyperglycemic state

(Davies et al., 2022)

- Improves insulin sensitivity in muscles during and after exercise

- Improve glucose control up to 24-hr after session

(ADA, n.d.c.; Gillen & Govette, 2021)



Physical Activity & Diabetes

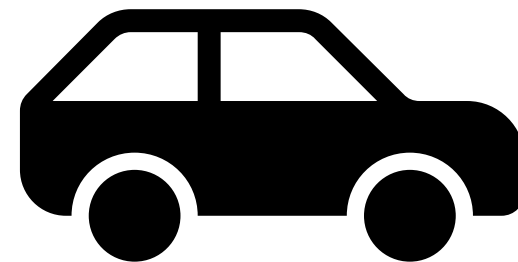
Individuals with type 2 diabetes are generally less active than those without

Lower energy expenditure and fewer daily steps

(Moghetti et al., 2020)

38% engage in less than **10 minutes** of weekly physical activity

(Mukherji et al., 2022)



Move More Douglas County

by Live Well Douglas County

Applied Practical Experience

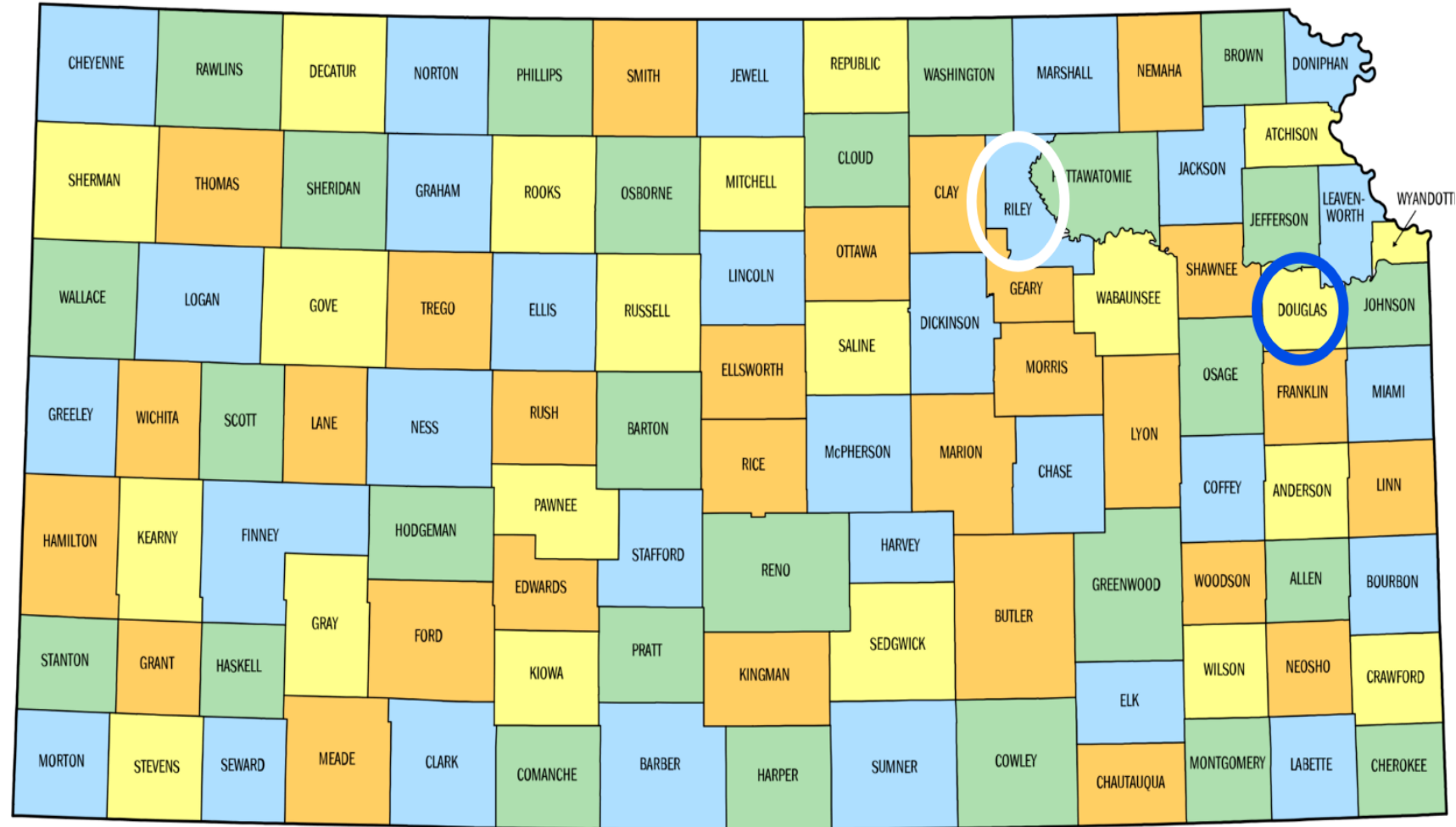
240 Hours

Summer 2024

Move More Douglas County by Live Well Douglas County



- Physical activity prescription program
- Launched in 2024
- **Target audience:** Adults living with prediabetes and type 2 diabetes in Douglas County



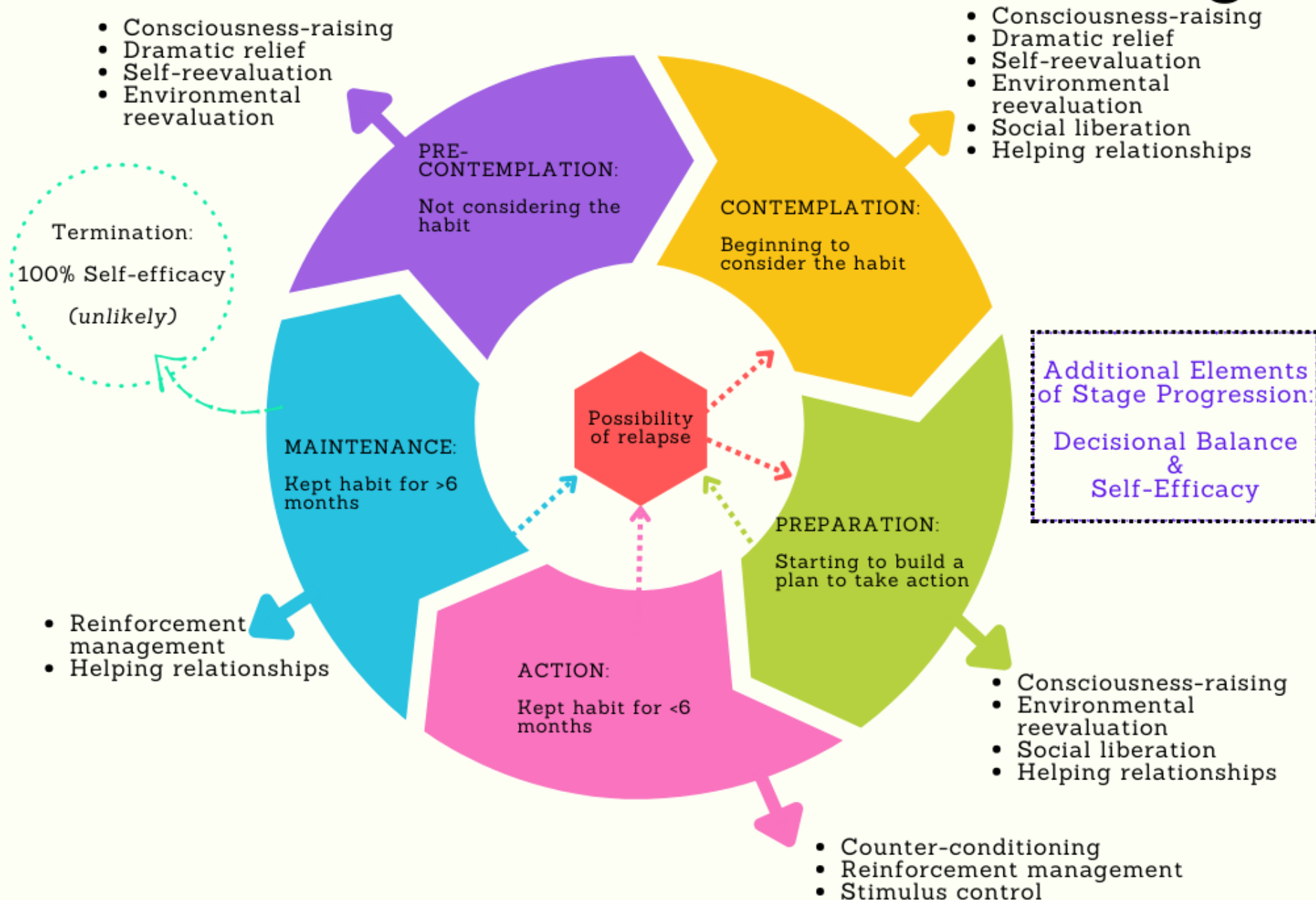
Move More Douglas County by Live Well Douglas County



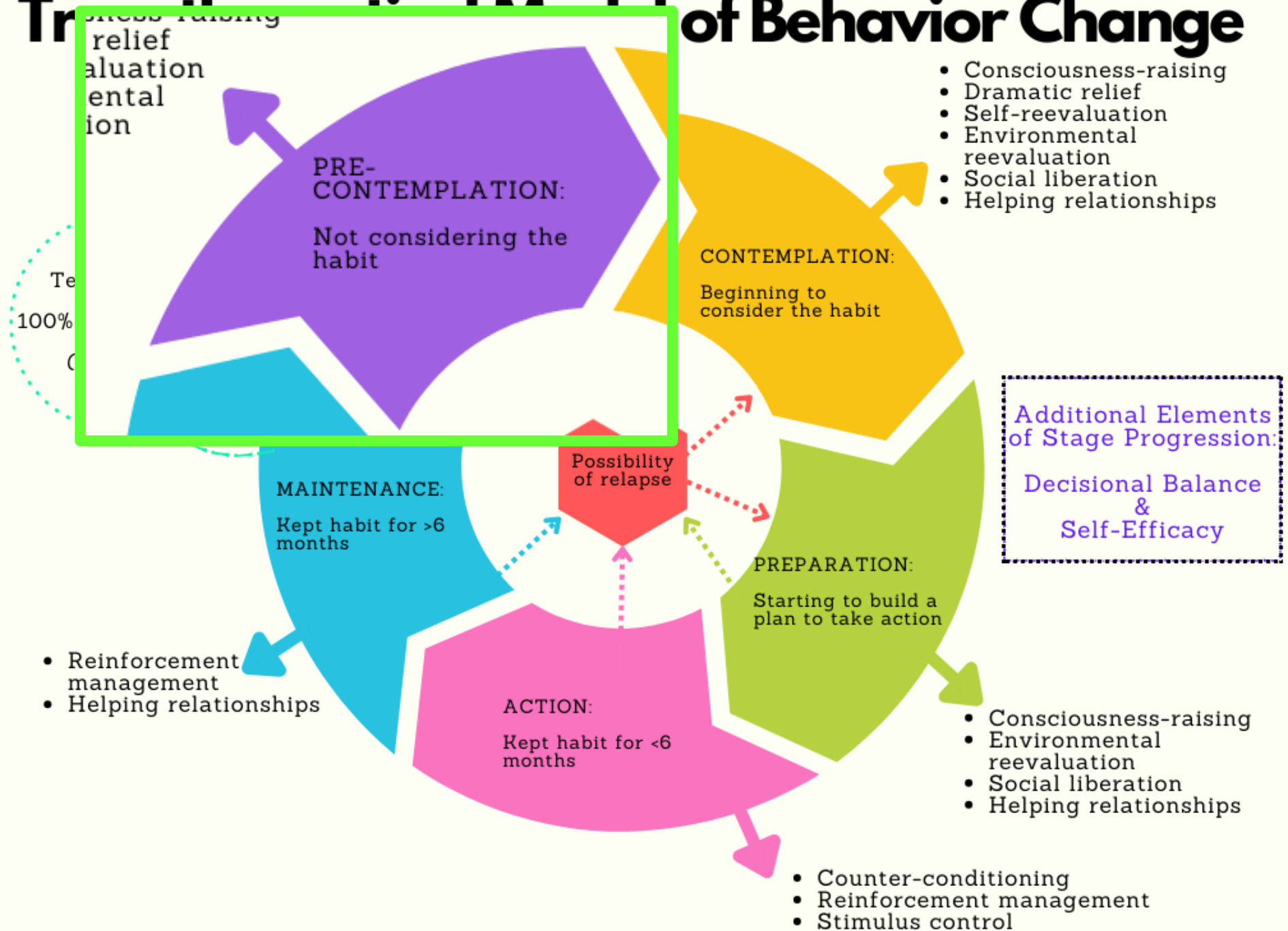
- **Program goal:** Increase access to physical activity opportunities
- **How it works:**
 - Patients with prediabetes or type 2 diabetes get a physical activity prescription from their provider
 - Heartland Community Health Center
 - Lawrence Memorial Hospital (LMH)
 - Redeemable for 3-month fitness scholarship at Lawrence Parks & Rec
 - Group fitness classes and personal training
 - Recreation center access is free; group fitness classes and personal training come at an extra cost (City of Lawrence, 2025; n.d.b)



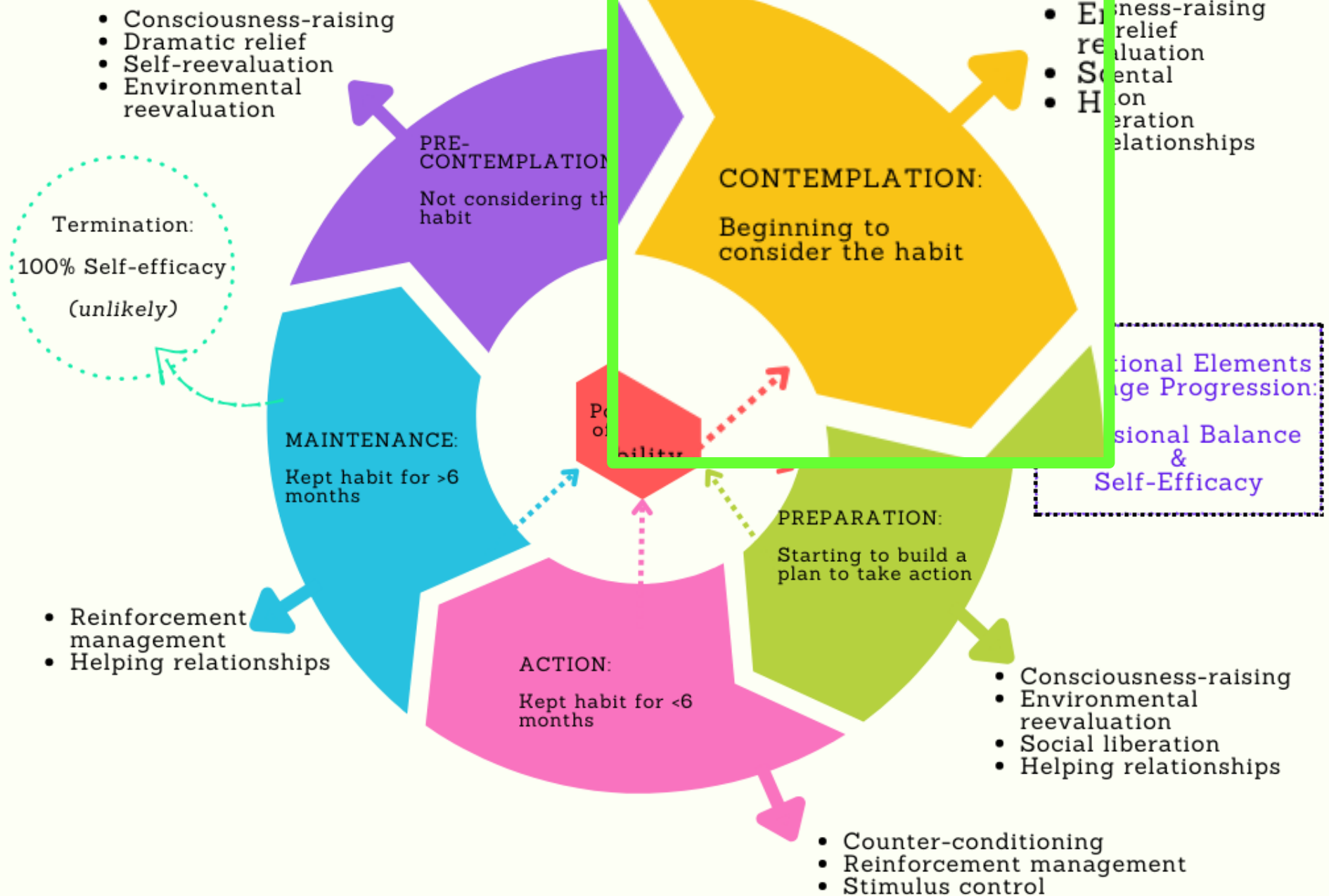
Transtheoretical Model of Behavior Change



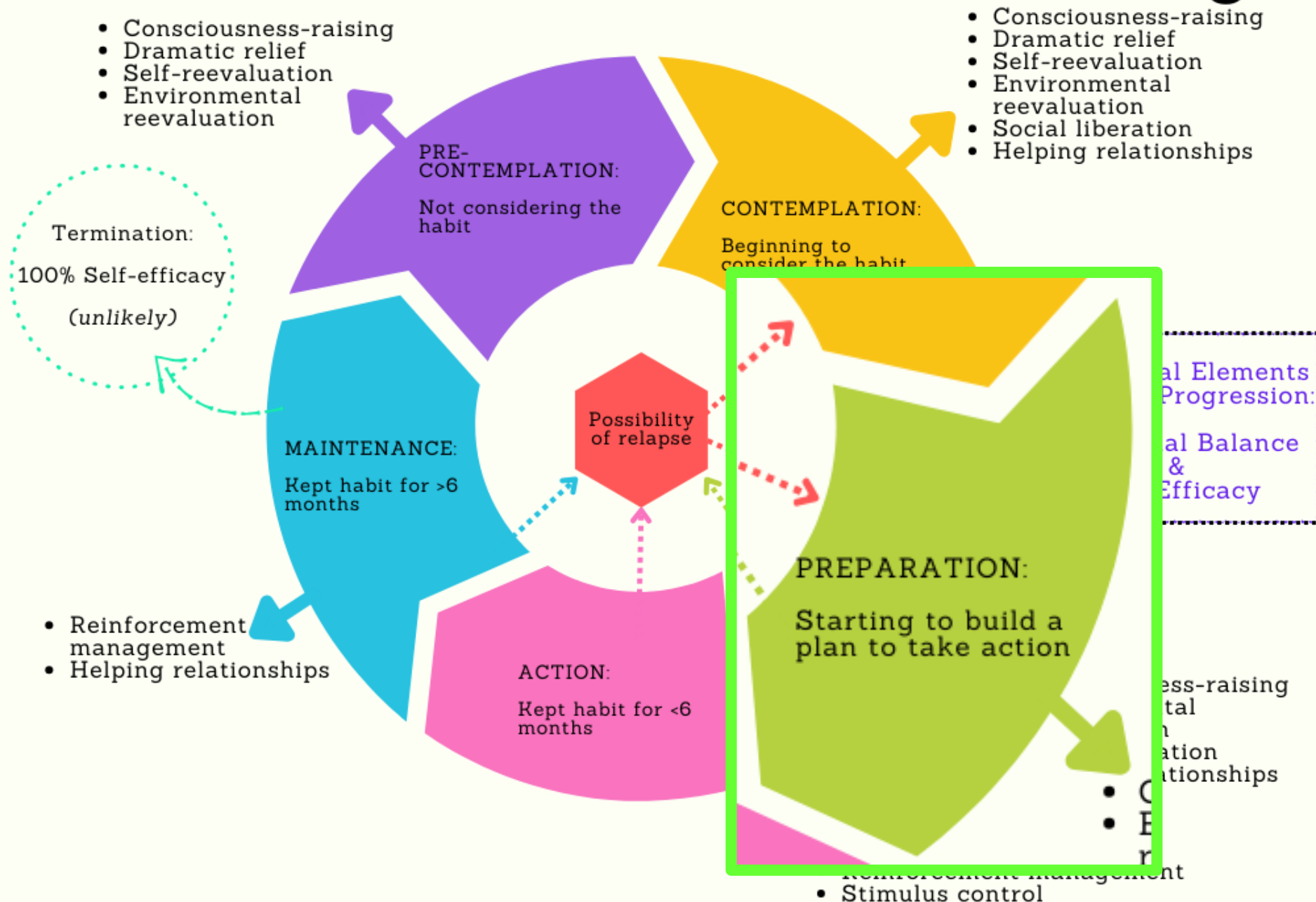
Stages of Behavior Change



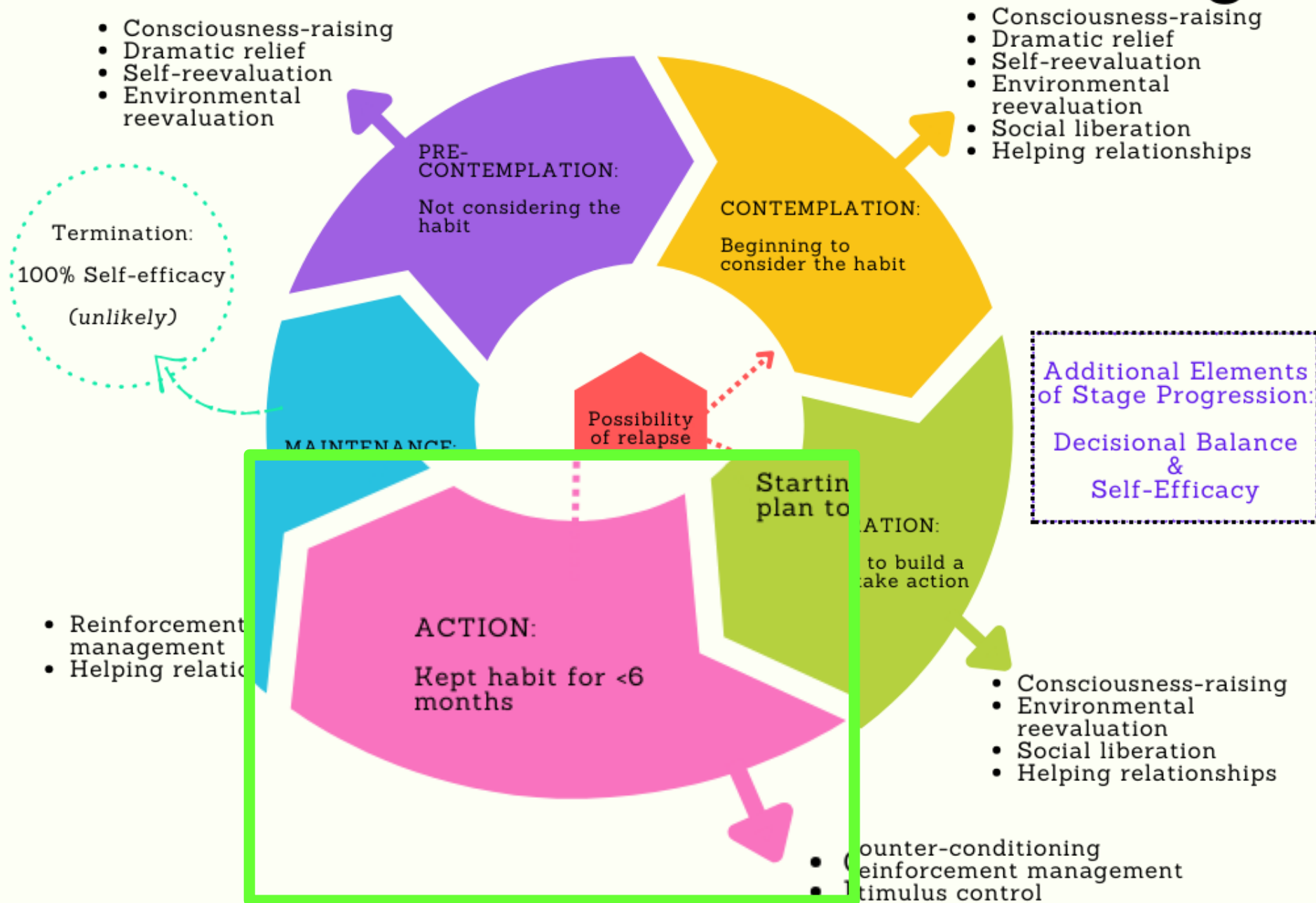
Transtheoretical Model of Behavior Change



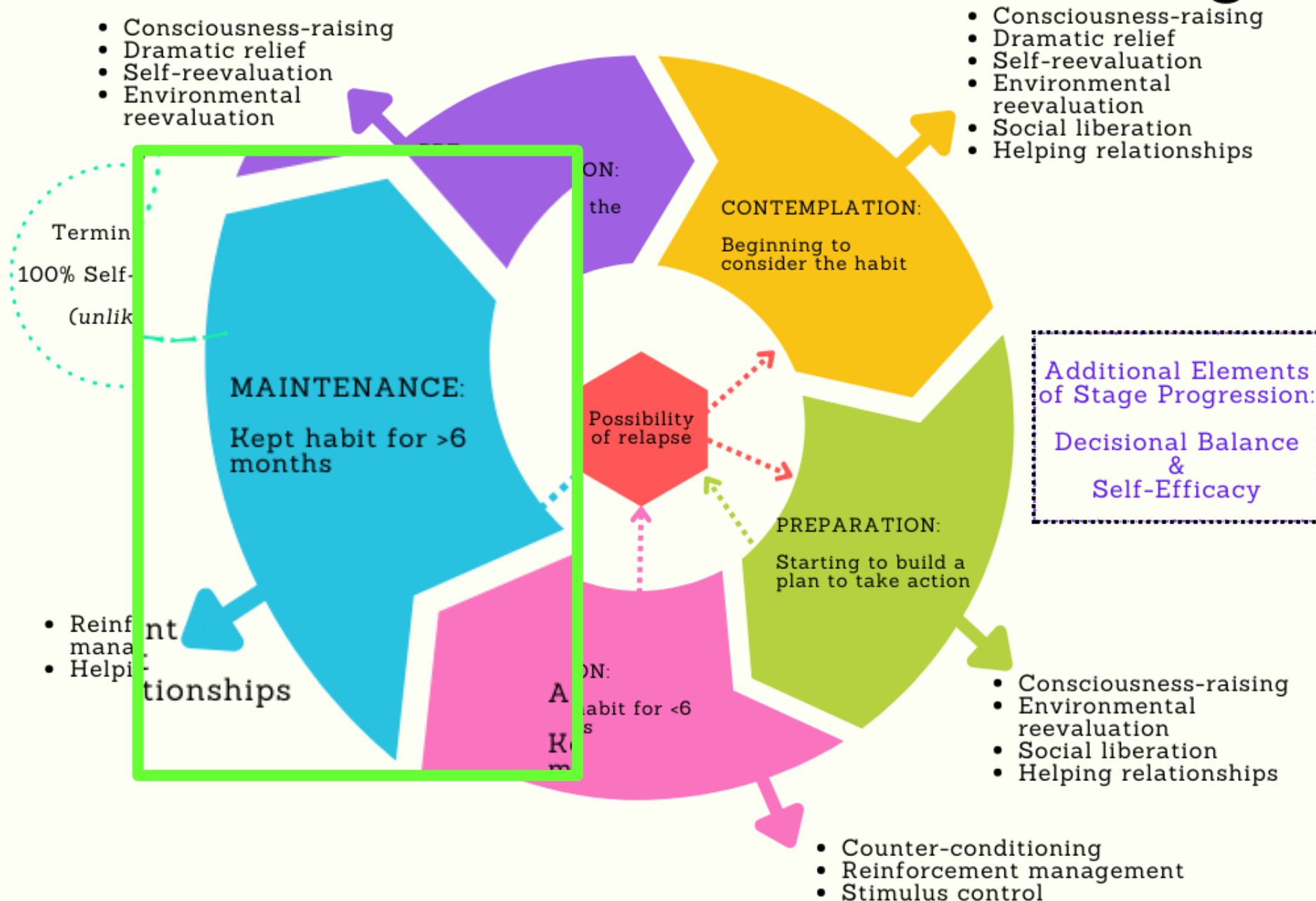
Transtheoretical Model of Behavior Change



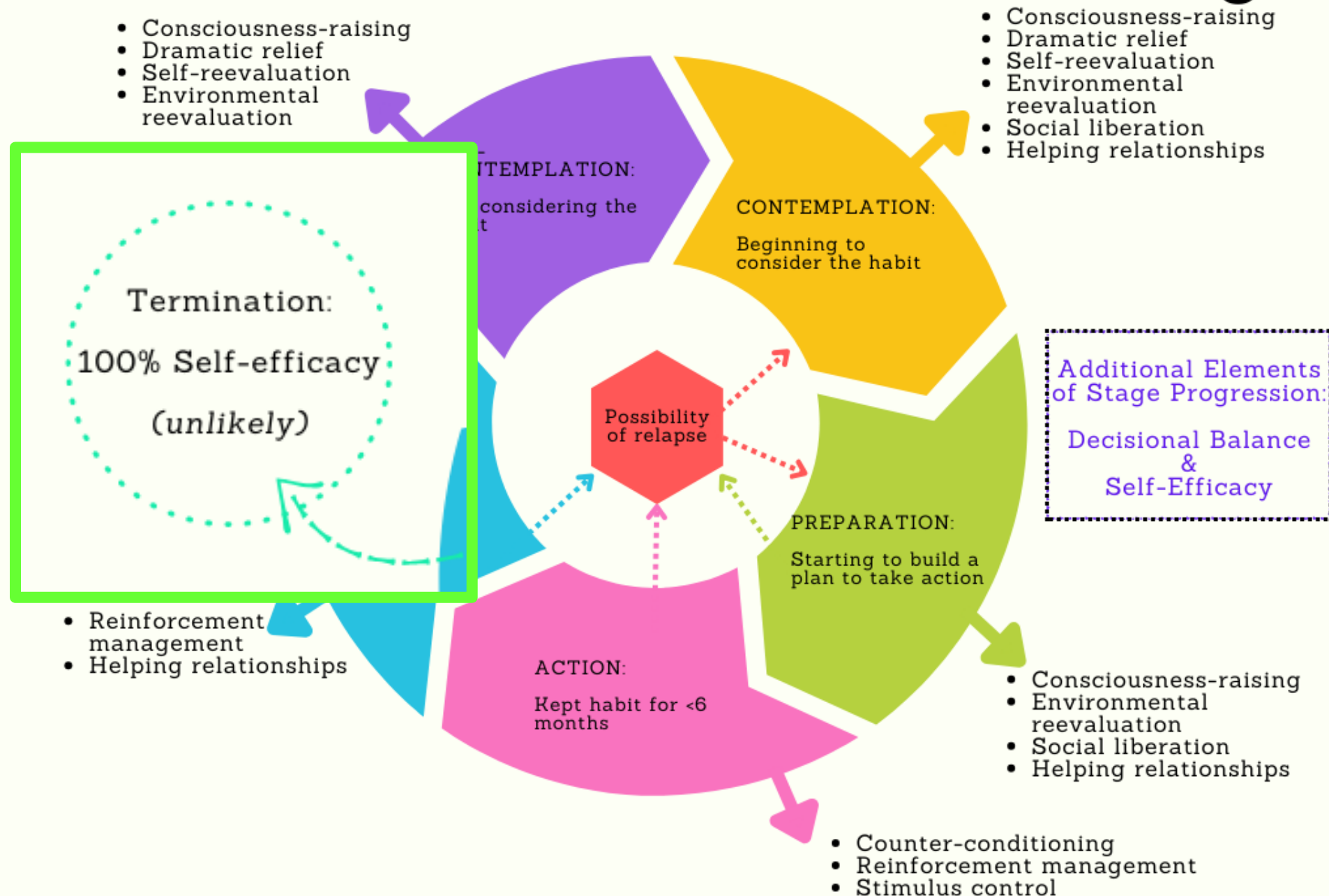
Transtheoretical Model of Behavior Change



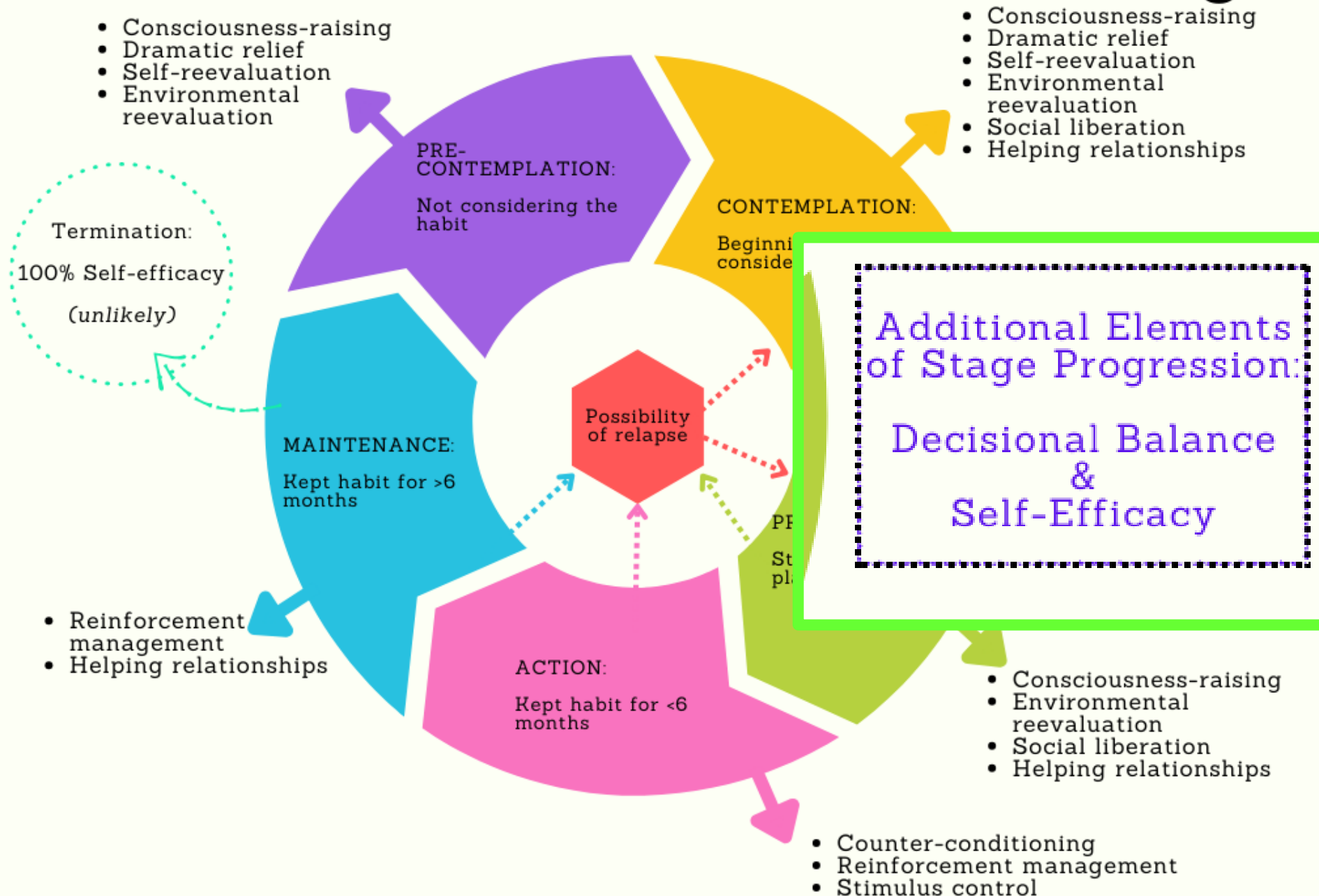
Transtheoretical Model of Behavior Change



Transtheoretical Model of Behavior Change



Transtheoretical Model of Behavior Change



Stages of Change Model of Behavior Change

- Consciousness-raising
- Dramatic relief
- Self-reevaluation
- Environmental reevaluation

- Consciousness-raising
- Dramatic relief
- Self-reevaluation
- Environmental reevaluation
- Social liberation
- Helping relationships

Termination:
100% Self-efficacy
(unlikely)

PRE-CONTEMPLATION:
Not considering the habit

CONTEMPLATION:
Beginning to consider the habit

MAINTENANCE:
Kept habit for >6 months

Possibility of relapse

PREPARATION:
Starting to build a plan to take action

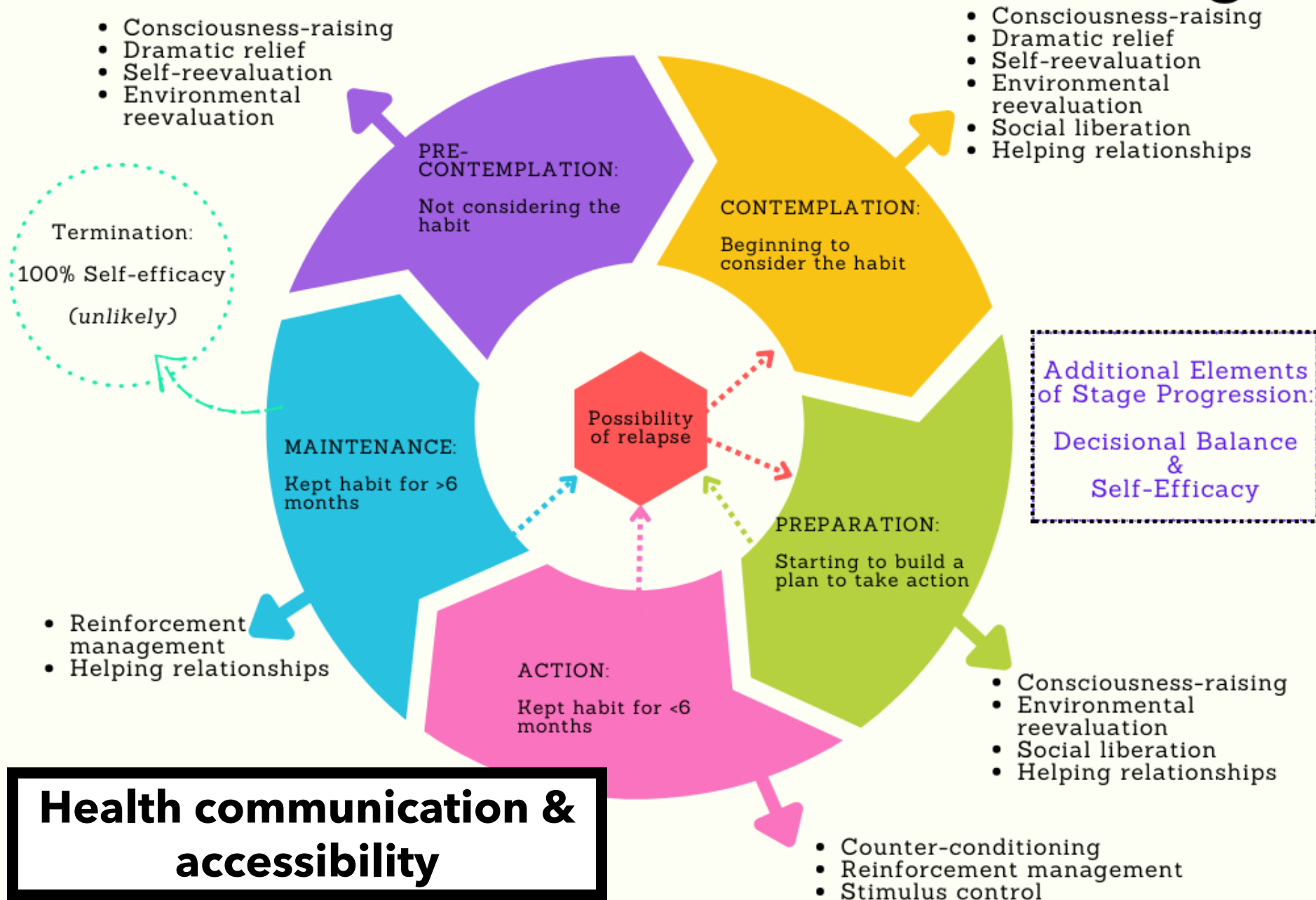
ACTION:
Kept habit for 3 months

- Reinforcement management
- Helping relationships

- Consciousness-raising
- Environmental reevaluation
- Social liberation
- Helping relationships

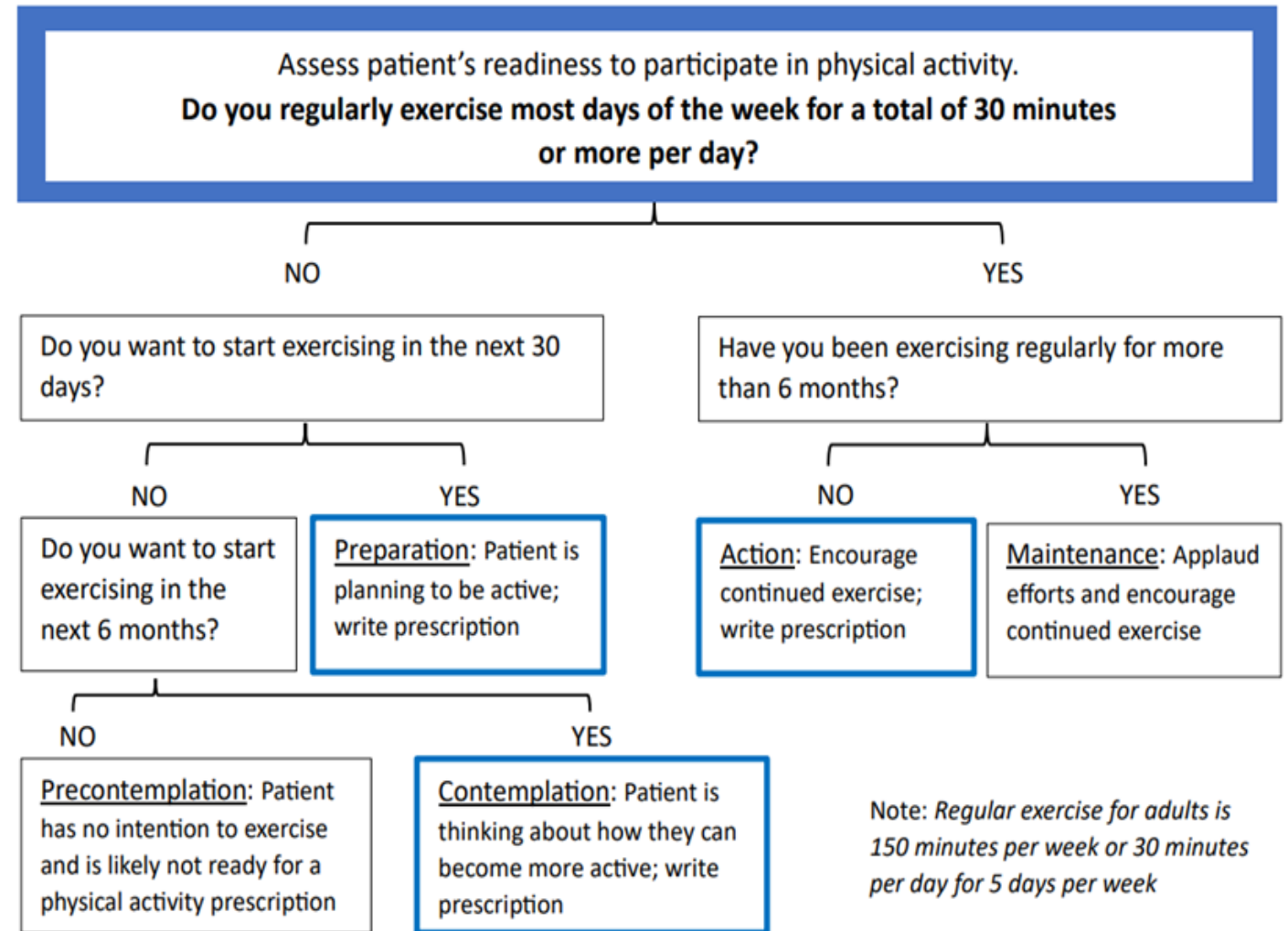
- Counter-conditioning
- Reinforcement management
- Stimulus control

Transtheoretical Model of Behavior Change



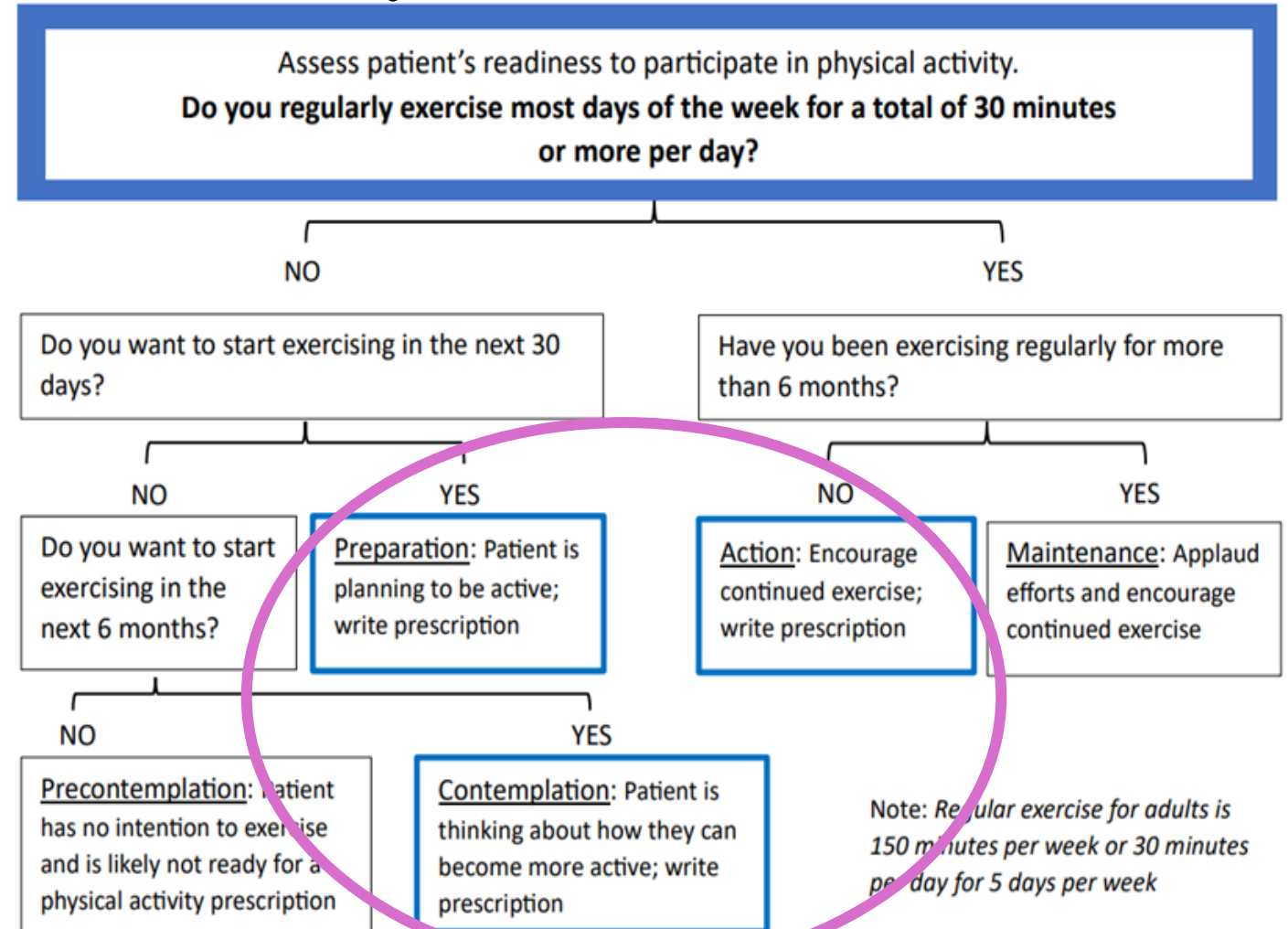
How Does Move More Douglas County Use the Stages of TTM?

- Medical provider assesses patient's stage of readiness to engage in physical activity



How Does Move More Douglas County Use the Stages of TTM?

- Medical provider assesses patient's stage of readiness to engage in physical activity



Product #1: List of Beginner Friendly Fitness Classes Offered at Lawrence Recreation Centers

- **Goal:** Simplify the process of exploring available class or personal training options and navigating the sign-up process



LiveWell
DOUGLAS COUNTY



LOCAL OPPORTUNITIES TO BE ACTIVE



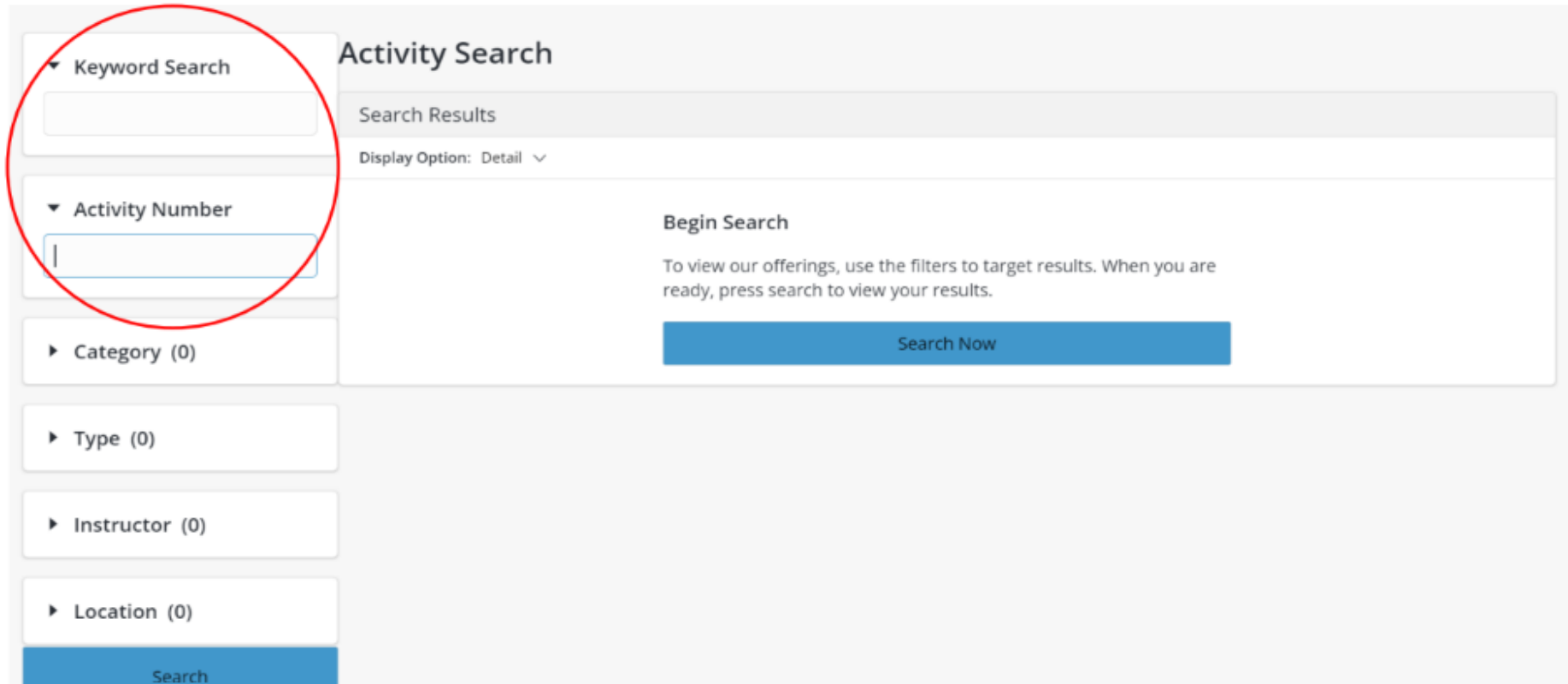
Physical activity is a big part in diabetes management. Check out these beginner friendly exercise options offered at:

- Sports Pavilion Lawrence®
- East Lawrence Recreation Center
- Holcom Park Recreation Center
- Community Building

Product #1: List of Beginner Friendly Fitness Classes Offered at Lawrence Recreation Centers

If you are interested in trying any of these classes, visit lprd.org/activity and use the filters to find out about availability, location and the schedule that works for you

Find the class by either typing it in the "Keyword Search" or looking it up by "Activity Number"



The screenshot shows the 'Activity Search' interface. On the left, there is a sidebar with several filter categories: 'Keyword Search' (with a dropdown arrow), 'Activity Number' (with a dropdown arrow), 'Category (0)', 'Type (0)', 'Instructor (0)', and 'Location (0)'. The 'Keyword Search' and 'Activity Number' sections are circled in red. The 'Activity Number' section has a text input field with a cursor. Below the filters is a blue 'Search' button. The main content area on the right is titled 'Activity Search' and contains a 'Search Results' section with a 'Display Option: Detail' dropdown. Below this is a 'Begin Search' section with a paragraph of text: 'To view our offerings, use the filters to target results. When you are ready, press search to view your results.' and a large blue 'Search Now' button.

Product #1: List of Beginner Friendly Fitness Classes Offered at Lawrence Recreation Centers

CLASS / ACTIVITY #	DESCRIPTION	LEVEL	INTENSITY	EQUIPMENT	OTHER CONSIDERATIONS
Personal Training	Best option for a beginner. A personal trainer can tailor workouts to your specific needs, goals and current abilities. Scheduling a session with a trainer means that you will have the undivided attention of an exercise professional to ensure you learn how to safely move through exercises, allowing you to build confidence while improving your fitness	All levels	Depends on client needs	Depends on client needs	Depends on client needs
Slow Flow Yoga / 315016	Mindful, slow paced floor poses, seated postures, spinal twisting, standing postures, gentle back bends, and deep breathing. This class starts slow and ends with a long savasana. This is an ideal class for those new to yoga, as well experienced students looking for a gentle practice	All levels	Low	Props will be provided in class. BRING PERSONAL MAT	Floor exercise
Yoga Flow / 315040	Suitable for beginners as well as experienced students who enjoy a gentler class. Develop body awareness, learn basic postures, and proper alignment. Learn how to pair breath with movement and become familiar with the connection to your physical and energetic body	All levels	Low	BRING PERSONAL MAT	Floor exercise
Yoga Restorative / 315046	This class is all about relaxation, relieving pain and tension, and connecting body and mind through breath and meditation. Stabilizing postures will help strengthen muscle groups in a low-impact way. You will leave this class feeling renewed and restored	All levels	Low	BRING PERSONAL MAT	Floor exercise

Additional information in Product #1

As You Explore these Classes, Consider the Following:



Aim to get 150 mins of moderate-intensity aerobic physical activity every week. It is best to break this up into smaller bouts of exercise spread throughout the week¹



Aim to do muscle-strengthening activities at least 2x per week¹. If you have the time, this can be done as a separate session. If you are short on time, this can be mixed into your 150 mins of moderate activity by doing circuit style training or participating in fitness classes that include some strength training



Personal Training: If you are unsure about how to incorporate circuit training or any other exercise related concerns, a personal trainer is a great resource that can help you with this

Physical activity recommendations

As You Explore these Classes, Consider the Following:



Enjoyment is strongly connected to consistent physical activity², so try new things to find what you like! The best workout is the one that you like and will stick to. Don't worry about trendy or overcomplicated workouts. Instead, find activities that you truly enjoy so that you do them long term



Don't forget to rest. Remember that you are building up your fitness, so if you do a workout that feels very intense, rest during your session as needed. Also, incorporate some lighter physical activity days in which you do light stretching, light walking, or other gentle movements to promote an effective recovery after a hard exercise session³

Enjoyment and recovery

Benefits of Strength Training

Strength training can improve muscle strength, endurance and power; it can support bone density and increase durability of connective tissue; it helps support blood glucose regulation and increases aerobic fitness⁶. Lastly, it can help improve mind-muscle connection⁶



Benefits of different activities

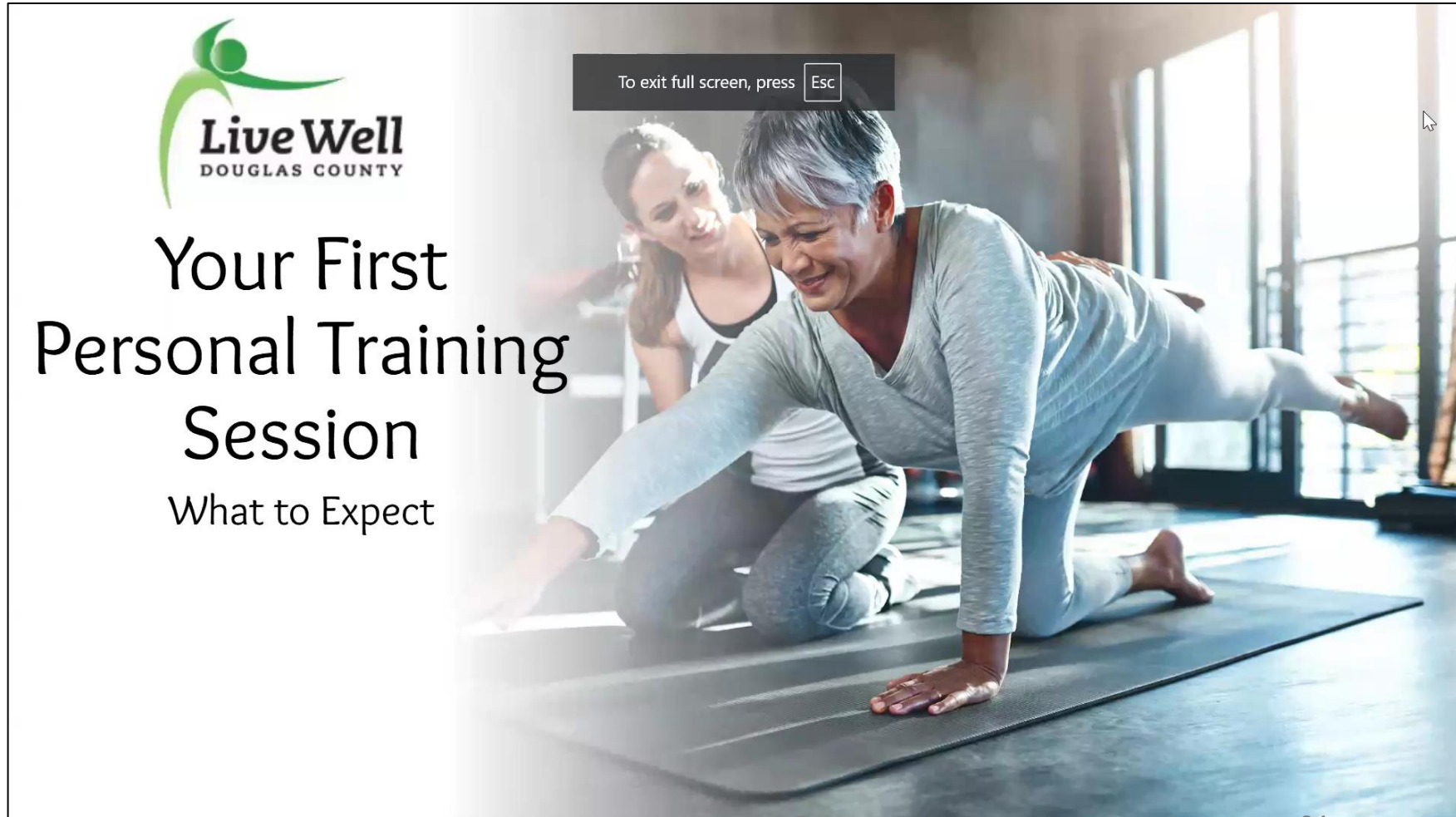
Product #2a: Educational presentations for target audience (English and Spanish). Topic covered: physical activity guidelines

- **Goal:** Educate individuals on physical activity guidelines and give strategies to build sustainable fitness habits



Product #2b: Educational presentation for target audience in English. Topic covered: personal training

- **Goal:** Educate individuals on the benefits of personal training and encourage them to reach out to professionals





Tu Primera Sesión con un Entrenador Personal

Qué Esperar



Your First Personal Training Session -
Spanish



This Photo by Unknown author is licensed under CC BY



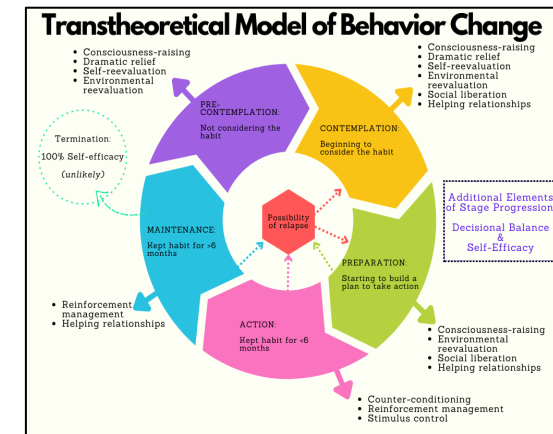
Directrices de Actividad Física



Physical Activity Guidelines - Spanish

Products #1 & #2

List of Fitness Classes & Educational Presentations



Stages of Change

Contemplation & Preparation

- Open to receiving information (Raihan & Cogburn, 2025)

Action

- Trying new classes renews enthusiasm for physical activity (Chan et al., 2020)
- Flexible scheduling improves exercise adherence (Collado-Mateo et al., 2021)
- Self-monitoring increases confidence in exercise (Collado-Mateo et al., 2021)

Processes of Change

Social liberation

- Policy that supports physical activity

Environmental reevaluation

- Opportunities to be active within the community

Helping relationships

- Participants connect with fitness staff and community members
- Social support is critical in motivation (Deslippe et al., 2023)

Product #3: Physical activity journal example page

- **Goal:** Create an interactive resource for participants to reflect on activities that they try and identify what they enjoy, not enjoy, and whether they want to keep doing the activity or change it



PHYSICAL ACTIVITY JOURNAL

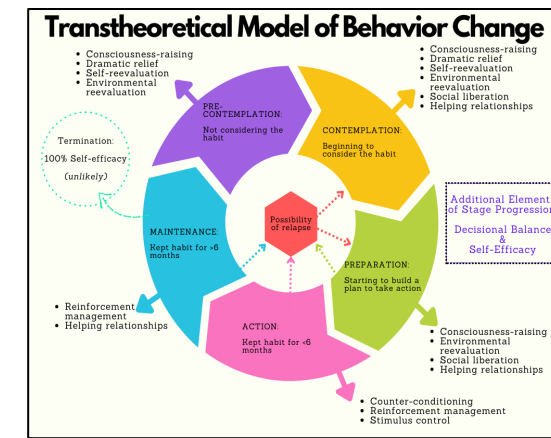
Type of Activity	
Duration	
How hard did you work? (0-10)	
Enjoyment during the activity (0-10)	
Did you do the activity with anyone else?	
How did you feel after the workout?	
What did you enjoy about the activity?	
What did you not enjoy about the activity? How could you change this next time?	
Are you planning on doing this again? If not, what other activity would you like to do next time?	

How hard did you work: 0 = Little to no effort; 10 = Highest effort possible

Enjoyment during activity: 0 = No enjoyment during activity; 10 = Enjoyed this activity very much

Product #3

Physical Activity Journal Page



Stages of Change

Preparation

- Problem solving to overcome setbacks
 - Aids in planning and preparing
- (Kim, 2025)

Action

- Customization of routine
 - Increase commitment to routine
- (Kim, 2025)

Processes of Change

Self-reevaluation

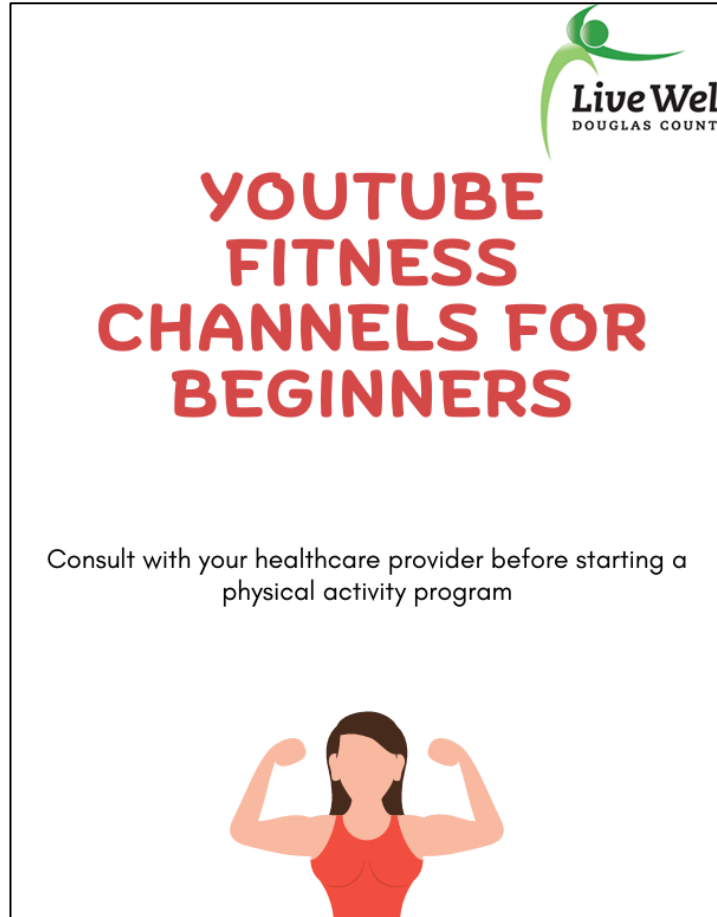
- Reflecting on current activities
- Psychological flexibility to better adapt to challenges (Chew et al., 2023)

Environmental reevaluation

- Reflecting on if space/context contributes to enjoyment

Product #4: YouTube Channels for Beginners (English and Spanish)

- **Goal:** Equip individuals with knowledge to identify credible online fitness sources, avoid misleading content, and make home-based physical activity more accessible and sustainable



English



Spanish

Product #4: YouTube Channels for Beginners (English and Spanish)

- **Goal:** Equip individuals with knowledge to identify credible online fitness sources, avoid misleading content, and make home-based physical activity more accessible and sustainable

IMPORTANT REMINDER

YouTube workouts can help you stay consistent because you can find workouts as short as 5 minutes and you can do them whenever it fits your schedule

However, with online workouts there is no one there to correct your form, so you must be **VERY AWARE** of how your body feels and know when to take breaks or modify exercises

Also, be aware of online trainers making extreme promises such as fast weight loss, as these are usually unrealistic and unsafe

Choose to follow people who offer objective information who aren't trying to sell you quick fixes

RECORDATORIO IMPORTANTE

Los entrenamientos en YouTube pueden ayudarte a mantenerte constante, ya que puedes encontrar rutinas de tan solo 5 minutos y las puedes hacer de acuerdo a tu horario

Sin embargo, con los entrenamientos en línea no hay nadie que pueda corregir tu forma, por lo que debes estar **MUY CONSCIENTE** de cómo se siente tu cuerpo y saber cuándo tomar descansos o modificar los ejercicios

También ten cuidado con los entrenadores en línea que hacen promesas extremas, como la pérdida rápida de peso, ya que suelen ser poco realistas y peligrosas

Elige seguir a personas que ofrecen información objetiva y que no intentan venderte soluciones rápidas

Product #4: YouTube Channels for Beginners (English and Spanish)

What draws people to home-based exercise:

- Not feeling self-conscious
- Time/space convenience
- Friendly, non-judgmental instructor
- Adequate pacing
- Modifications available

(K B et al., 2025)

FitnessBlender: Includes cardio, strength training, stretching, and high intensity interval training (HIIT) with clear instructions for a variety of levels

Yoga with Adriene: Yoga perfect for beginners and shows you that you do not have to be flexible to start doing yoga

POPSUGAR Fitness: Includes cardio, strength training, dance, Pilates, and many other options! Taught by a variety of trainers for a variety of levels

BodyProject: Offers low impact workouts that are perfect for beginners

Walk at Home by Leslie Sansone: Walking workouts that are perfect for beginners with easy-to-follow, low-impact routines that can be done in small spaces

Up to the Beat Fit: Dance-based and walking workouts that are fun and easy to follow

Fausto Murillo: Incluye una variedad de entrenamientos, incluyendo cardio, fuerza y HIIT

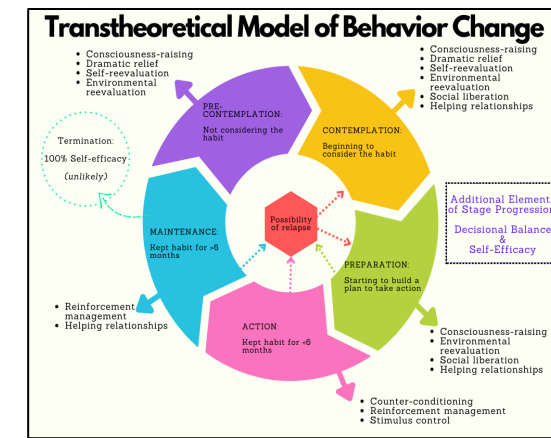
Malova Elena: Ofrece yoga, Pilates, y ejercicios de flexibilidad. Da instrucciones claras y te alenta a fijarte cómo te sientes durante las rutinas, haciendo sus videos perfectos para principiantes

Xuan Lan Yoga: Ofrece clases de yoga con distintos enfoques, tales como relajación, fuerza, y flexibilidad. Da instrucciones claras con distintas alternativas, lo cual hace su canal adecuado para principiantes

Entrenando con Sergio Peinado: Tiene una variedad de rutinas de fuerza, cardio y HIIT

Product #4

YouTube Fitness for Beginners



Stages of Change

Preparation

- Planning when and where to be physically active

Action

- Supports consistency due to convenience of time and location (Sakairi et al., 2025)

Processes of Change

Environmental reevaluation

- Home becomes physical activity space
- Screens become physical activity tools

Stimulus control

- Association of screens with physical activity

Product #5: Parks in Lawrence, KS

- **Goal:** Encourage individuals to explore local outdoor spaces and help them prepare for their visit



Opportunities to Enjoy Nature in Lawrence, KS



Product #5: Parks in Lawrence, KS

- **Goal:** Encourage individuals to explore local outdoor spaces and help them prepare for their visit



Overlook Park by Clinton Lake

800 N. 1402 Rd Lawrence, KS 66049

Overlook Park by Clinton Lake is perfect for getting outside and enjoying nature without having to drive too far. It is open from 8:00 am to 10:00 pm and has free parking with plenty of space.

There are picnic and shelter areas, trash cans that make it easy to keep the place tidy, and a variety of trails for biking and hiking. If you are exploring the trails, take a picture of a map of the area, located at the trailheads—it can get a bit confusing in the woods! But, if you do not have much else to do that day, maybe you will be in the mood to do some wandering in this nature park. Plus, there are bike repair stations for minor upkeep and maintenance. There are also restrooms and water fountains near the parking area.

The trails are shaded but have no rest areas or water fountains, so bring good shoes, water, and snacks. Watch out for rocks and roots that can be tripping hazards; you can also stick to the paved paths near the parking area if balance is a concern. Lighting is limited in the area, so it is best to visit while the sun is up.

There is no public transportation near this park, so you will want to use your own car to get there, or perhaps carpool with a friend or family member for a fun day in nature.

Do not forget to enjoy the lovely view of Clinton Lake while you are there!

Things you may want to pack for a trip to Overlook Park:

- Good walking shoes that you do not mind getting dirty if you run into muddy spots along the trails
- A phone to take a picture of the map
- Bug spray
- Sunscreen
- Snacks
- Water

More information: <https://www.recreation.gov/camping/campgrounds/233577?tab=info>

Product #5: Parks in Lawrence, KS

Why outdoor activity?

- Most common activity in parks is walking
- Walking does not require skill or training
- Flexible scheduling
- Usually free
- No specific equipment

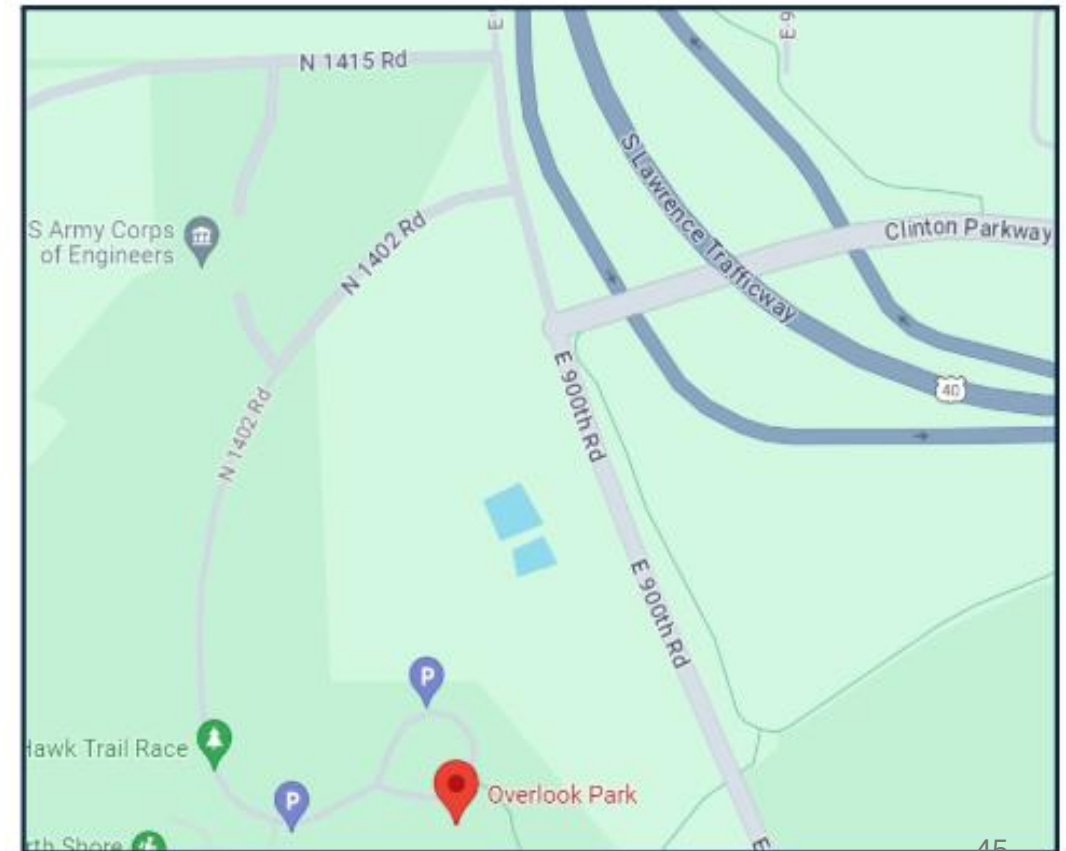
(Grigoletto et al., 2021)



Overlook Park by Clinton Lake

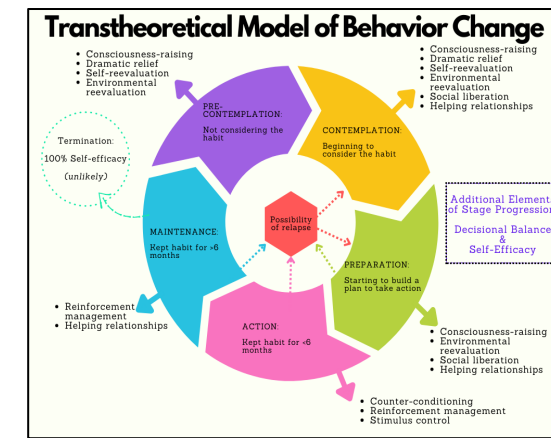
800 N. 1402 Rd Lawrence, KS 66049

****See red pin for location****



Product #5

Parks in Lawrence, KS



Stages of Change

Preparation

- Planning when and where to be physically active

Action

- Adding variety to current routine

Processes of Change

Environmental reevaluation

- Exploration of community green spaces

NOTE:

- All products were completed and ready for distribution
- Program was very new during my APE
- Ideas on distribution:
 - Printed materials
 - Website
 - Newsletter
 - Text message

APE Products & Core Competencies

Portfolio Product		Number and Competency Addressed	
2 & 3	Educational presentations; physical activity journal	8	Apply awareness of cultural values and practices to the design, implementation, or critique of public health policies or programs.
5	Parks in Lawrence	9	Design a population-based policy, program, project, or intervention.
1,2 & 4	List of fitness classes; educational presentations; YouTube fitness channels	19	Communicate audience-appropriate (i.e., non-academic, non-peer audience) public health content, both in writing and through oral presentation.
1	List of fitness classes	21	Integrate perspectives from other sectors and/or professions to promote and advance population health.
3 & 5	Physical activity journal; parks in Lawrence	22	Apply a systems thinking tool to visually represent a public health issue in a format other than a standard narrative.

Summary of MPH Emphasis Area Competencies

MPH Physical Activity Emphasis Area:		
Number and Competency		Description
1	Population health	KIN 612 – Policy, Built Environment, & Physical Activity
2	Social, behavioral and environmental influences	KIN 610 – Program Planning & Evaluation KIN 805 – Physical Activity & Human Behavior
3	Theory application	KIN 610 – Program Planning & Evaluation KIN 805 – Physical Activity & Human Behavior
4	Developing and evaluating physical activities interventions	KIN 610 – Program Planning & Evaluation KIN 805 – Physical Activity & Human Behavior.
5	Support evidence-based practice	KIN 612 – Policy, Built Environment, and Physical Activity

Meaningful Experiences

PARCS Lab



iMOVES & FB



FFT



SNPhA



Acknowledgments

Committee



Dr. Besenyi



Dr. Mailey



Dr. Kastner

Preceptor/Mentor



Ginny
Barnard, MPH

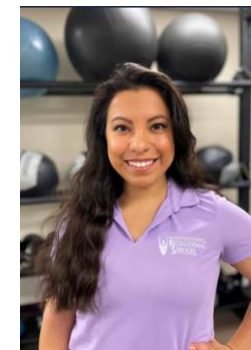
*Executive Director
Live Well Douglas
County*

MPH Director



Dr. Mulcahy

Friends & Family





Questions

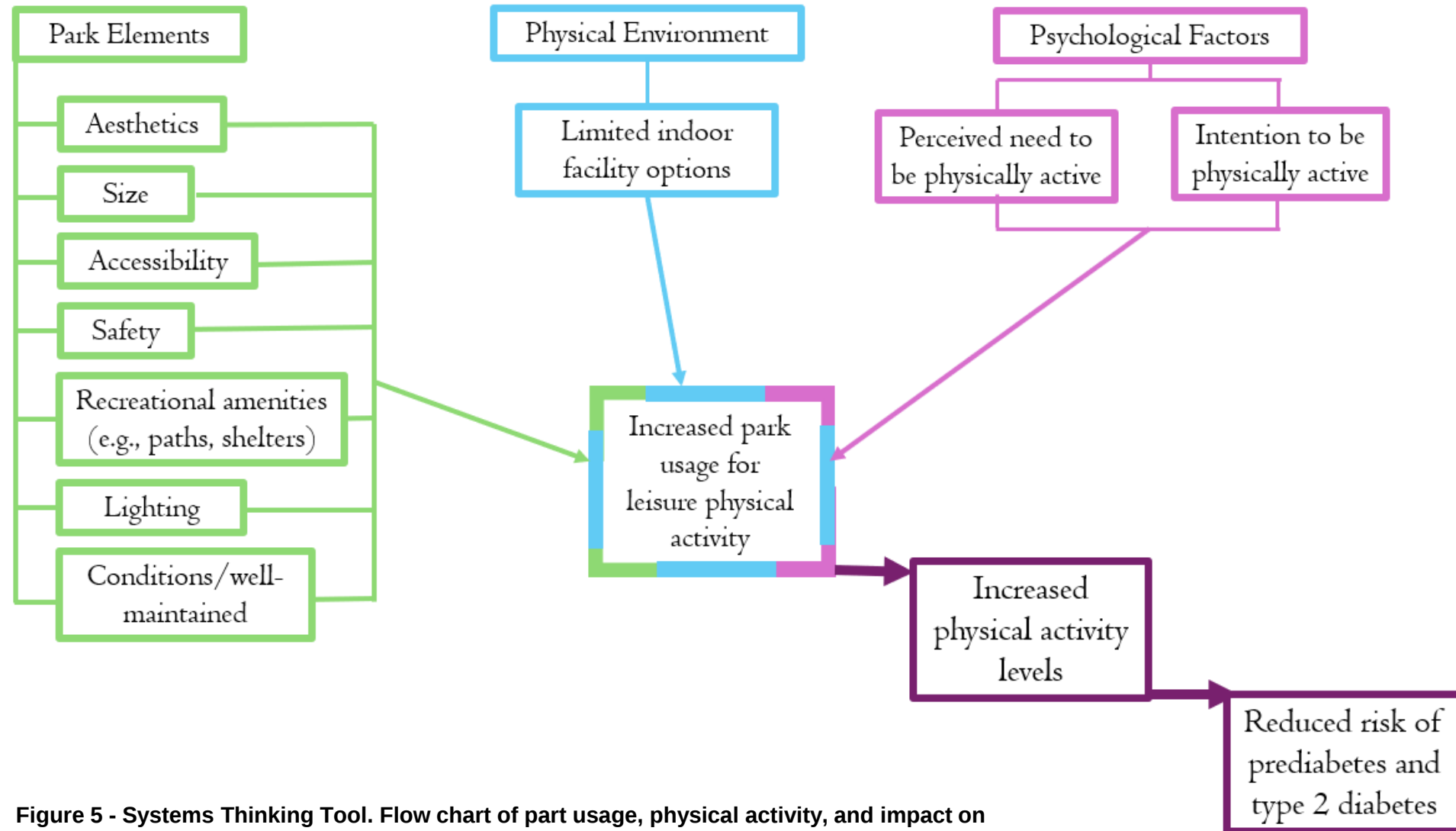


Figure 5 - Systems Thinking Tool. Flow chart of park usage, physical activity, and impact on prediabetes and type 2 diabetes. Created by student based on articles by Bedimo-Rung et al., 2005 and McCormack et al., 2023.

Importance of Targeting Hispanic/Latino Population

- Community health centers often support individuals of lower socioeconomic status and/or lack insurance
- Income 18% lower than that of non-Hispanic white households
- Highest uninsured rate of any racial/ethnic group in the United States
- Hispanics are 60% more likely to be diagnosed with diabetes by a physician
- 1.5 times more likely to die from diabetes than non-Hispanic whites

(U.S. Department of Health and Human Services, Office of Minority Health, 2025)

- Lawrence Hispanic Population: ~8% or ~7,500 individuals

(U.S. Census Bureau, 2023)

NHANES & BRFSS

- Yearly national survey: National Health and Nutrition Survey (NHANES)
- Study trends in medical conditions
 - National estimates for diabetes

(CDC NHANES, 2024)

- Behavioral Risk Factor Surveillance System (BRFSS)
- State level survey
- Latest Kansas BRFSS Report: 2021
- NHANES Ratios are applied to Kansas' BRFSS Data

(BRFSS, 2017; BRFSS, 2024)

ID # _____
Date: _____

Move More Douglas County

Physical Activity Prescription Pre-Survey

Congratulations! You are taking a big step to improve your health and wellbeing!
Please complete the following questions.

1. What community do you live in?

☒ Lawrence
☐ Eudora
☐ Baldwin City
☐ Lecompton
☐ Other _____

2. During the past week, circle the number that best describes how much **energy** you have had.

0 1 2 3 4 5 6 7 8 9 10
No energy Full of energy

3. During the past week, circle the number that best describes how much **physical pain** you have had.

0 1 2 3 4 5 6 7 8 9 10
No pain Worst pain possible

4. Thinking about your current health, which of the following activities can you do?

Activity	Never	Sometimes	Always
Lifting heavy objects	☐	☒	☐
Push a vacuum cleaner	☐	☐	☒
Lift or carry groceries	☐	☐	☒
Climb stairs	☐	☐	☒
Bend or kneel to pick something up	☐	☐	☒
Walk a mile (about 12 city blocks)	☐	☐	☒
Gardening or yard work	☐	☒	☐
Reach for something above your head	☐	☐	☒
Ride a bicycle or swim	☐	☐	☒

5. During a typical day, how much awake time do you spend **sitting or reclining** at home or at work?

☐ Less than 2 hours ☐ 2-4 hours ☐ 5-7 hours ☒ More than 8 hours

ID # _____
Date: _____

6. In a typical week, how many **days** do you exercise?

☐ 0 days ☒ 1 day ☐ 2 days ☐ 3 days ☐ 4 days ☐ 5–7 days

7. In a typical week, how many **minutes** of exercise do you get?

☐ Less than 10 minutes ☐ 10 – 15 minutes ☒ 15 – 30 minutes
☐ 30 – 45 minutes ☐ 45 – 60 minutes ☐ _____

8. What do you want exercise to do for you?

Benefit	Not Important	Somewhat Important	Extremely Important
Sleep better	☐	☐	☒
More energy	☐	☐	☒
Improve strength	☐	☒	☐
Feel better/Improve moods	☐	☐	☒
Increase flexibility	☐	☒	☐
Manage weight	☐	☒	☐
Improve heart health	☐	☒	☐
Breathe easier	☐	☒	☐
Improve blood sugar control	☐	☒	☐
Better balance	☐	☒	☐

9. What will be your biggest challenge to exercise or increasing your physical activity?

☒ Lack of time ☐ Too much work ☐ No support from family or friends
☐ Transportation ☐ Fear of injury ☒ No energy/motivation
☐ Other: _____

10. On a scale of 0 to 10, how confident are you that you can be more physically active?

0 1 2 3 4 5 6 7 8 9 10
Not Confident Very Confident



Move More Douglas County Physical Activity Prescription Program is a partnership between LiveWell Douglas County, Heartland Community Health Center and LMH Health. Funded by a Blue Cross Blue Shield of Kansas *Pathways to a Healthy Kansas* Grant.

ID # _____
Date: _____

Move More Douglas County Physical Activity Prescription Post-Survey

Keep it up! You are improving your health and wellbeing! Please complete the following questions.

1. During the past week, circle the number that best describes how much **energy** you have had.

0 1 2 3 4 5 6 7 8 9 10
No energy Full of energy

2. During the past week, circle the number that best describes how much **physical pain** you have had.

0 1 2 3 4 5 6 7 8 9 10
No pain Worst pain possible

3. Thinking about your current health, which of the following activities can you do?

Activity	Never	Sometimes	Always
Lifting heavy objects	☐	☒	☐
Push a vacuum cleaner	☐	☐	☒
Lift or carry groceries	☐	☐	☒
Climb stairs	☐	☐	☒
Bend or kneel to pick something up	☐	☐	☒
Walk a mile (about 12 city blocks)	☐	☐	☒
Gardening or yard work	☐	☐	☒
Reach for something above your head	☐	☐	☒
Ride a bicycle or swim	☐	☐	☒

4. During a typical day, how much awake time do you spend **sitting or reclining** at home or at work?

☐ Less than 2 hours ☐ 2 – 4 hours ☐ 5 – 7 hours ☒ More than 8 hours

5. In a typical week, how many **days** do you exercise?

☐ 0 days ☐ 1 day ☐ 2 days ☒ 3 days ☐ 4 days ☐ 5 – 7 days

6. In a typical week, how many **minutes** of exercise do you get?

☐ Less than 10 minutes ☐ 10 – 15 minutes ☐ 15 – 30 minutes
☐ 30 – 45 minutes ☐ 45 – 60 minutes ☒ 60+ minutes

ID # _____
Date: _____

7. What changes have you noticed since beginning the physical activity prescription program?

Benefit	No Change	Some Improvement	Big Improvement
Sleep better	☐	☒	☐
More energy	☐	☒	☐
Improve strength	☐	☒	☐
Feel better/Improve moods	☐	☒	☐
Increase flexibility	☐	☒	☐
Manage weight	☐	☒	☐
Improve heart health	☐	☐	☐ <i>un sure</i>
Breathe easier	☐	☒	☐
Improve blood sugar control	☐	☐	☐ <i>un sure</i>
Better balance	☐	☒	☐

8. What was your biggest challenge to exercise or increasing your physical activity?

☒ Lack of time ☐ Too much work ☐ No support from family or friends
☐ Transportation ☐ Fear of injury ☐ No energy/motivation
☒ Other: financial cost

9. On a scale of 0 to 10, how confident are you that you will continue to be more physically active?

0 1 2 3 4 5 6 7 8 9 10
Not Confident Very Confident

10. If you would like to share your story to increase physical activity, please leave your name and contact information. A Move More Douglas County team member will contact you.

Name: _____ Phone: _____
Email: _____



PATHWAYS TO A
HEALTHY
KANSAS



Move More Douglas County Physical Activity Prescription Program is a partnership between LiveWell Douglas County, Heartland Community Health Center, and LMH Health.

Most Current Program Data

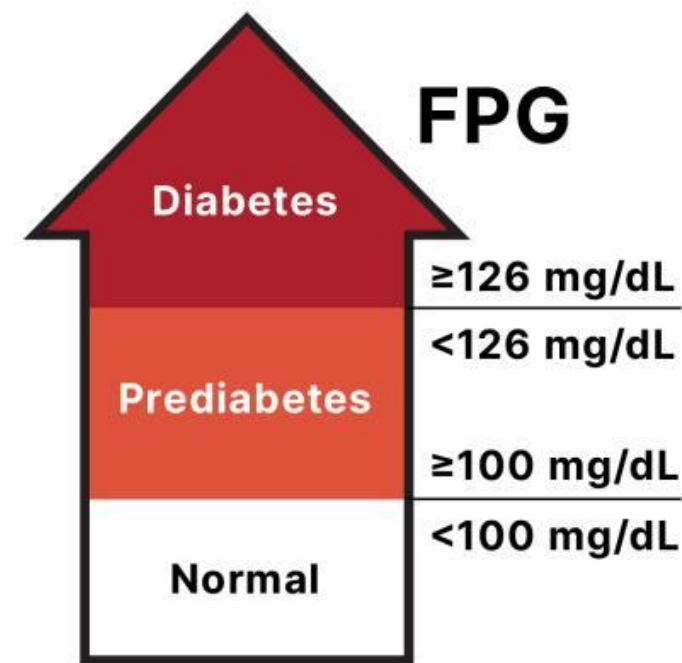
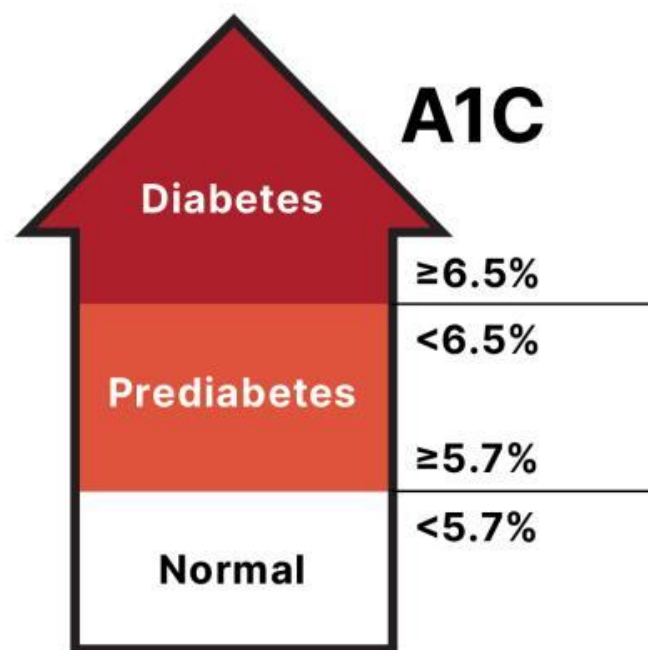
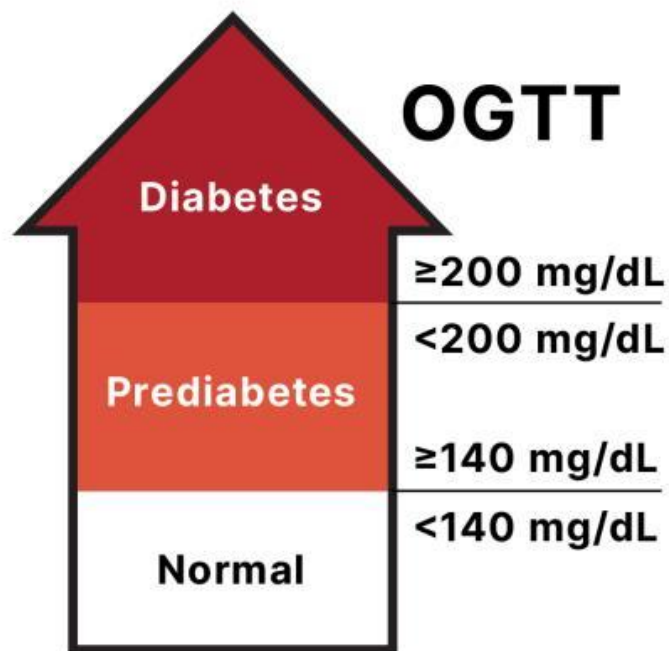
June 2024 – March 2025	
Rx redeemed at Parks & Rec	25 (LMH → 17; Heartland → 8)
Pre-surveys done	25
Post-surveys done	19
Most popular program	Personal training
Improvements	Lowered A1C Better balance Better flexibility Feel better/improved mood Improved strength

What Values Diagnose Type 2 Diabetes and Prediabetes?

OGTT: Oral Glucose Tolerance Test

A1C: Hemoglobin A1C

FPG: Fasting Plasma Glucose



Type 2 Diabetes Risk Factors

- Being 45 years or older
 - Family history
 - Obesity
 - Physical inactivity
 - Certain ethnic groups
 - African American, Hispanic/Latino, American Indian, Asian American, and Pacific Islander populations
- (CDC 2024c)
- Environmental factors
 - Urbanization
 - Exposure to air and chemical pollutants
 - Low socioeconomic status
 - Limited access to green spaces
 - Unwalkable neighborhoods



(Beulens et al., 2022)

Barriers to Physical Activity

- Low self-efficacy (Kanaley, et al., 2022, Vilafranca et al., 2021)
 - Knowing **what** to do is not enough; knowing **how** to do it is essential
- Lack of social support (Deslippe et al., 2023; Kanaley, et al., 2022, Vilafranca et al., 2021)
- Lack time and competing priorities (Cavallo et al., 2023; Deslippe et al., 2023; Vilafranca et al., 2021)
- Limited access to facilities and safe spaces (Deslippe et al., 2023; Kanaley, et al., 2022)
- High costs
- Unfavorable weather (Deslippe et al., 2023; Vilafranca et al., 2021)

Live Well Douglas County

- Started in 2008
- Works to create communities that support the health and well-being of all residents
- Initially focused on two key contributors to chronic disease
 - Limited access to nutritious food
 - Limited access to physical activity opportunities
- Mission has expanded to include tobacco prevention, youth-focused initiatives, and other health risks like domestic violence

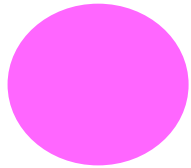
(Live Well Douglas County, n.d.)

Suggested Model for Health Literacy Communication

Socio-ecological Model of Health (SEM)



Healthy People 2030 - Health Communication



Social Determinants of Health



Health Communication

[Increase the proportion of adults whose health care provider checked their understanding — HC/HIT-01](#)

□ Little or no detectable change

[Decrease the proportion of adults who report poor communication with their health care provider — HC/HIT-02](#)

□ Little or no detectable change

[Increase the proportion of adults whose health care providers involved them in decisions as much as they wanted — HC/HIT-03](#)

□ Little or no detectable change

[Increase the proportion of adults with limited English proficiency who say their providers explain things clearly — HC/HIT-D11](#)

⚙ Developmental

References

American Diabetes Association (2023a) The burden of diabetes in Kansas. Retrieved from https://diabetes.org/sites/default/files/2023-09/ADV_2023_State_Fact_sheets_all_rev_Kansas.pdf

American Diabetes Association (2023b) New American Diabetes Association report finds annual costs of diabetes to be \$412.9 billion. Diabetes.org. <https://diabetes.org/newsroom/press-releases/new-american-diabetes-association-report-finds-annual-costs-diabetes-be>

American Diabetes Association (2022) *Statistics about diabetes*. Diabetes.org. <https://diabetes.org/about-diabetes/statistics/about-diabetes>

American Diabetes Association. (n.d.a). *Understanding neuropathy and your diabetes*. <https://diabetes.org/about-diabetes/complications/neuropathy>

American Diabetes Association (n.d.b) Diabetes diagnosis & tests. Retrieved 2025, from <https://diabetes.org/about-diabetes/diagnosis>

American Diabetes Association (n.d.c) Blood glucose and exercise. Diabetes.org. Retrieved from <https://diabetes.org/health-wellness/fitness/blood-glucose-and-exercise>

Beulens, J. W. J., Pinho, M. G. M., Abreu, T. C., den Braver, N. R., Lam, T. M., Huss, A., Vlaanderen, J., Sonnenschein, T., Siddiqui, N. Z., Yuan, Z., Kerckhoffs, J., Zhernakova, A., Brandao Gois, M. F., & Vermeulen, R. C. H. (2022). Environmental risk factors of type 2 diabetes—An exposome approach. *Diabetologia*, 65(2), 263–274. <https://doi.org/10.1007/s00125-021-05618-w>

Cavallo, M., Morgana, G., Dozzani, I., Gatti, A., Vandoni, M., Pippi, R., Pucci, G., Vaudo, G., & Fanelli, C. G. (2023). Unraveling barriers to a healthy lifestyle: Understanding barriers to diet and physical activity in patients with chronic non-communicable diseases. *Nutrients*, 15(15), 3473. <https://doi.org/10.3390/nu15153473>

Bedimo-Rung, A. L., Mowen, A. J., & Cohen, D. A. (2005) The significance of parks to physical activity and public health: A conceptual model. *American Journal of Preventive Medicine*, 28(2, Supplement 2), 159–168. <https://doi.org/10.1016/j.amepre.2004.10.024>

Centers for Disease Control and Prevention (2024a) Diabetes Basics. Diabetes. <https://www.cdc.gov/diabetes/about/index.html>

References

Centers for Disease Control and Prevention (2024b) National diabetes statistics report. U.S. Department of Health & Human Services. <https://www.cdc.gov/diabetes/php/data-research/index.html>

Centers for Disease Control and Prevention - BRFSS (2024) Appendix B: Estimating the total number of people with diagnosed diabetes. U.S. Department of Health and Human Services. <https://www.cdc.gov/diabetes/php/data-research/appendix-b.html>

Centers for Disease Control and Prevention - NHANES (2024) National Health and Nutrition Examination Survey (NHANES). National Center for Health Statistics. Retrieved April 3, 2025, from <https://www.cdc.gov/nchs/nhanes/about/index.html>

Chan, J. C., Ryan, R. M., & Tudor-Locke, C. (2020). Make fitness fun: Could novelty be the key determinant for physical activity adherence? *Frontiers in Psychology*, 11, 577522. <https://doi.org/10.3389/fpsyg.2020.577522>

Chew, H. S. J., Chng, S., Rajasegaran, N. N., Choy, K. H., & Chong, Y. Y. (2023) Effectiveness of acceptance and commitment therapy on weight, eating behaviours and psychological outcomes: a systematic review and meta-analysis. *Eating and Weight Disorders*, 28(1), 6–6. <https://doi.org/10.1007/s40519-023-01535-6>

City of Lawrence. (n.d.) Sports Pavilion Lawrence®. <https://lawrenceks.org/lprd/recreationfacilities/spl/>

City of Lawrence (2025) Activity search. https://kslawrenceweb.myvscloud.com/webtrac/web/search.html?Action=Start&SubAction=&type=FIT&type=RUN&arwebsearch_buttonsearch=yes&_csrf_token=rl0S70030T1D3V4A3C2W2J4F095T6N6E0B6Z5R5S6Y0D5T4Q595Z71736B546E1F604K576S0L5T4U5D6F6P5L5Z5P4Y076Z696H660F0B4S5F561J534F6L5J045M4L5M

Collado-Mateo, D., Lavín-Pérez, A. M., Peñacoba, C., Del Coso, J., Leyton-Román, M., Luque-Casado, A., Gasque, P., Fernández-del-Olmo, M. A., & Amado-Alonso, D. (2021). Key factors associated with adherence to physical exercise in patients with chronic diseases and older adults: An umbrella review. *International Journal of Environmental Research and Public Health*, 18(4), 2023. <https://doi.org/10.3390/ijerph18042023>

Davies, M. J., Aroda, V. R., Collins, B. S., Gabbay, R. A., Green, J., Maruthur, N. M., Rosas, S. E., Del Prato, S., Mathieu, C., Mingrone, G., Rossing, P., Tankova, T., Tsapas, A., & Buse, J. B. (2022) Management of hyperglycaemia in type 2 diabetes, 2022. A consensus report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD). *Diabetologia*, 65(12), 1925–1966. <https://doi.org/10.1007/s00125-022-05787-2>

References

- Deslippe, A. L., Soanes, A., Bouchaud, C. C., Beckenstein, H., Slim, M., Plourde, H., & Cohen, T. R. (2023) Barriers and facilitators to diet, physical activity and lifestyle behavior intervention adherence: A qualitative systematic review of the literature. *International Journal of Behavioral Nutrition and Physical Activity*, 20(1), 14. <https://doi.org/10.1186/s12966-023-01424-2>
- Gillen, J. B., Estafanos, S., & Govette, A. (2021) Exercise-nutrient interactions for improved postprandial glycemic control and insulin sensitivity. *Applied Physiology, Nutrition, and Metabolism*, 46(8), 856–865. <https://doi.org/10.1139/apnm-2021-0168>
- Grigoletto, A., Mauro, M., Maietta Latessa, P., Iannuzzi, V., Gori, D., Campa, F., Greco, G., & Toselli, S. (2021) Impact of Different Types of Physical Activity in Green Urban Space on Adult Health and Behaviors: A Systematic Review. *European Journal of Investigation in Health, Psychology and Education*, 11(1), 263–275. <https://doi.org/10.3390/ejihpe11010020>
- K B, S., Vaishali, K., Kadavigere, R., Sukumar, S., Bommasamudram, T., & Hoogar, P. (2025) Exploring needs, perceptions, and preferences towards exercise video among overweight individuals: A qualitative study [Version 2; peer review: 1 approved with reservations]. *F1000Research*, 13, 998. <https://doi.org/10.12688/f1000research.150772.2>
- Kim, H. (2025) Taking a Pause: Co-Designing a Reflection Tool for Meaning Creation in Patients With Type 2 Diabetes. *Health Expectations*, 28(1), e70182. <https://doi.org/10.1111/hex.70182>
- McCormack, G. R., Petersen, J., Naish, C., Ghoneim, D., & Doyle-Baker, P. K. (2023) Neighbourhood environment facilitators and barriers to outdoor activity during the first wave of the COVID-19 pandemic in Canada: A qualitative study. *Cities & Health*, 7(4), 643–655. <https://doi.org/10.1080/23748834.2021.2016218>
- Moggetti, P., Balducci, S., Guidetti, L., Mazzuca, P., Rossi, E., & Schena, F. (2020) Walking for subjects with type 2 diabetes: A systematic review and joint AMD/SID/SISMES evidence-based practical guideline. *Nutrition, Metabolism & Cardiovascular Diseases*, 30(12), 1882–1898. <https://doi.org/10.1016/j.numecd.2020.08.021>
- Move More Douglas County (2024) Physical activity prescription and referral
- Mukherji, A. B., Lu, D., Qin, F., Hedlin, H., Johannsen, N. M., Chung, S., Kobayashi, Y., Haddad, F., Lamendola, C., Basina, M., Talamoa, R., Myers, J., & Palaniappan, L. (2022) Effectiveness of a Community-Based Structured Physical Activity Program for Adults With Type 2 Diabetes: A Randomized Clinical Trial. *JAMA Network Open*, 5(12), e2247858. <https://doi.org/10.1001/jamanetworkopen.2022.47858>
- National Institute of Diabetes and Digestive and Kidney Diseases (2023) What is diabetes? U.S. Department of Health and Human Services. <https://www.niddk.nih.gov/health-information/diabetes/overview/what-is-diabetes>
- Pardina, E., Tondo, M., Escolà-Gil, J. C., Rossell, J., & Julve, J. (2024). Molecular mechanisms involved in hyperglycemia-induced cellular damage. *Chronic Complications of Diabetes Mellitus*, 25–38.
- Parker, E. D., Lin, J., Mahoney, T., Ume, N., Yang, G., Gabbay, R. A., ElSayed, N. A., & Bannuru, R. R. (2024) Economic costs of diabetes in the U.S. in 2022. *Diabetes Care*, 47(1), 26–43. <https://doi.org/10.2337/dci23-0085>

References

- Rahman, M. S., Hossain, K. S., Das, S., Kundu, S., Adegoke, E. O., Rahman, M. A., Hannan, M. A., Uddin, M. J., & Pang, M.-G. (2021) Role of insulin in health and disease: An update. *International Journal of Molecular Sciences*, 22(12), 6403. <https://doi.org/10.3390/ijms22126403>
- Raihan, N., & Cogburn, M. (2025) Stages of Change Theory. In StatPearls. StatPearls Publishing. <http://www.ncbi.nlm.nih.gov/books/NBK556005/>
- Ren, Z., Zhu, H., Zhang, T., Hua, H., Zhao, K., Yang, N., Liang, H., & Xu, Q. (2021). Effects of a 12-Week Transtheoretical Model–Based Exercise Training Program in Chinese Postoperative Bariatric Patients: A Randomized Controlled Trial. *Obesity Surgery*, 31(10), 4436–4451. <https://doi.org/10.1007/s11695-021-05607-3>
- Sakairi, M., Miyagami, T., Tabata, H., Yanagisawa, N., Saita, M., Suzuki, M., Fujibayashi, K., Fukuda, H., & Naito, T. (2025) Efficacy of Unsupervised YouTube Dance Exercise for Patients With Hypertension: Randomized Controlled Trial. *JMIR Cardio*, 9(1), e65981. <https://doi.org/10.2196/65981>
- K B, S., Vaishali, K., Kadavigere, R., Sukumar, S., Bommasamudram, T., & Hoogar, P. (2025) Exploring needs, perceptions, and preferences towards exercise video among overweight individuals—A qualitative study [version 2; peer review: 1 approved with reservations]. *F1000Research*, 13, 998. <https://doi.org/10.12688/f1000research.150772.2>
- U.S. Department of Health and Human Services, Office of Minority Health. (2025) Diabetes and Hispanic Americans. Retrieved from https://minorityhealth.hhs.gov/diabetes-and-hispanic-americans#:~:text=Diabetes%20and%20Hispanic%20Americans%20*%20In%202020%2C,to%20diabetes%20as%20compared%20to%20non%2DHispanic%20whites.3%2021
- U.S. Department of Health and Human Services, Office of Minority Health (2025) Hispanic/Latino health. Retrieved from [https://minorityhealth.hhs.gov/hispaniclatino-health#:~:text=According%20to%202022%20ACS%20estimates%20%2C%20the,was%20higher%20than%20that%20of%20whites%20\(3.2%\).](https://minorityhealth.hhs.gov/hispaniclatino-health#:~:text=According%20to%202022%20ACS%20estimates%20%2C%20the,was%20higher%20than%20that%20of%20whites%20(3.2%).)
- U.S. Census Bureau. (2023) QuickFacts: Lawrence city, Kansas. U.S. Department of Commerce. Retrieved from <https://www.census.gov/quickfacts/fact/table/lawrencecitykansas/PST045223>
- University of Pennsylvania (n.d.) Glossary: Health behavior and health education. Retrieved February 18, 2025, from <https://www.med.upenn.edu/hbhe4/part2-ch5-glossary.shtml>
- Yeh, Y. K., Yen, F., & Hwu, C. (2023) Diet and exercise are a fundamental part of comprehensive care for type 2 diabetes. *Journal of Diabetes Investigation*, 14(8), 936–939. <https://doi.org/10.1111/jdi.14043>