Greater Than the Highs and Lows:

Increasing Resiliency Through Visual Narrative

Kim Wooten, BA

A Thesis Submitted in Partial
Fulfillment of the Requirement
for the Mast of Arts in Art Therapy Degree

Department of Art Therapy in the Graduate Program
Saint Mary-of-the-Woods College
Saint Mary-of-the-Woods, Indiana

December 9th, 2019
ABSTRACT
This mixed methods study investigated the relationship between resiliency and the experience of living with a chronic illness, specifically Type 1 Diabetes (T1D). A sample of 44 adult T1D Facebook volunteers were recruited as participants, who participated via an online survey and optional in-depth interview. Interview and survey data were coded to search for themes related to the construct of resiliency. In addition, this researcher also utilized heuristic inquiry to visually explore different stages of the T1D illness narrative within a research journal to gather and explore personal resiliency themes. To determine the effects of artmaking on resiliency, the Protective Factors for Resilience Scale and Initiative 10: Images of Pain and Healing was completed before and after the visual narrative process. The results of the survey and the heuristic process showed that resilience was an important aspect of the T1D experience. More specifically, an overarching theme of thriving instead of surviving was found along with three common themes of resiliency, with a positive and negative subtheme for each: (a) acceptance and need for more control (subtheme of self-efficacy and shame), (b) technology and depression (subthemes of coping strategies and loneliness), and (c) acceptance and disease as a label (subthemes of positive affect and stigma). This study sought to advance the field of art therapy by showing how exploring one’s chronic illness narrative through art therapy methods can foster and increase one’s resiliency.
# TABLE OF CONTENTS

| ABSTRACT | 2 |
| I. INTRODUCTION | 5 |
| Problem Statement | 5 |
| Hypothesis/Research Question | 6 |
| Basic Assumptions | 6 |
| Statement of Purpose | 7 |
| Definition of Terms | 8 |
| Justification of the Study | 8 |
| II. LITERATURE REVIEW | 10 |
| Type 1 Diabetes | 10 |
| Current Medical Treatments | 14 |
| Comorbidity | 17 |
| Mental Health Complications | 18 |
| Resilience | 21 |
| Therapy Approaches | 23 |
| Focusing-Oriented Therapy | 24 |
| Art Therapy | 26 |
| Narrative Therapy | 28 |
| Focusing-Oriented Art Therapy | 30 |
| III. METHODOLOGY | 33 |
| Participants | 33 |
| Research Design | 34 |
| Research Instruments | 36 |
| Data Collection and Analysis | 38 |
| Validity and Reliability | 39 |
| Ethical Implications | 40 |
| Researcher Bias | 41 |
| IV. RESULTS | 42 |
| Thriving Instead of Surviving | 42 |
| Acceptance and Need for More Control | 45 |
| Technology and Depression | 52 |
| Acceptance and Disease as a Label | 60 |
| V. DISCUSSION | 67 |
| Thriving Instead of Surviving | 67 |
| Acceptance and Need for More Control | 68 |
| Technology and Depression | 71 |
| Acceptance and Disease as a Label | 75 |
| Limitations | 77 |
| Recommendations and Future Studies | 77 |
Conclusion ..................................................................................................................................................78
REFERENCES .............................................................................................................................................80
APPENDICES ..............................................................................................................................................99
  APPENDIX A: SurveyMonkey Screen Shots .........................................................................................99
  APPENDIX B: Optional Interview Screen Shots .................................................................................101
  APPENDIX C: Protective Factors for Resilience Scale Blank Form .................................................102
  APPENDIX D: Coptic Sketchbook .........................................................................................................103
  APPENDIX E: Pre-Diagnosis ................................................................................................................104
  APPENDIX F: Diagnosis ......................................................................................................................105
  APPENDIX G: Denial .............................................................................................................................106
  APPENDIX H: Struggle ..........................................................................................................................107
  APPENDIX I: Acceptance ......................................................................................................................108
  APPENDIX J: Strength ..........................................................................................................................109
  APPENDIX K: Pre- Protective Factors for Resilience Scale and Pre-Initiative #10 .......................110
  APPENDIX L: Initiative #10: Images of Pain and Healing instructions .........................................111
  APPENDIX M: FOAT instructions .......................................................................................................113
  APPENDIX N: Post-Protective Factors for Resilience Scale and Post-Initiative #10 ...............115
CHAPTER I

Introduction

Type 1 Diabetes (T1D) has been defined as an autoimmune disease that causes the body’s immune system to destroy the insulin-producing beta cells of the pancreas (Buschard, 2011). Without insulin, the cells in the body cannot open to receive nutrients, causing the body’s glucose levels to rise and the cells to atrophy while the unused nutrients begin to turn acidic, resulting in diabetic ketoacidosis (Farsani et al., 2014). If left untreated or undiagnosed, this high concentration of glucose results in a diabetic coma followed by death (Philips & Sinha, 2018). Insulin therapy is currently only viable treatment for T1D and people with this disease must take insulin via syringe or pump every single day to survive (Lin, Northam, Werther, & Cameron, 2015). T1D can occur at any age and affect people from any country in the world (Harrington, 2017).

There is currently no clear etiology of T1D. Although some believed that it is caused by environmental factors, such as a virus, others believe that T1D is caused by genetic alternations (Babu & Eisenbarth, 2012). Regardless of assumptions, studies have not found a clear correlation between T1D and hereditary markers, nor is this disease believed to be a result of poor diet or lack of exercise (JDRF, n. d.). Additionally, many individuals with T1D face obstacles of comorbid diseases and mental health issues (Northam, Lin, Finch, Werther, & Cameron, 2010).

Problem Statement

As of 2018, there were around 1.25 million Americans living with T1D out of a total population of over 326 million people (American Diabetes Association, 2018). Although individuals of any ethnicity can be diagnosed with T1D, higher rates have been found among
Caucasians followed by African-Americans and Hispanics, with Asian ethnicities having the lowest occurrence rates (Endocrineweb, 2018). Individuals with T1D face many challenges on a daily basis that range from disease maintenance, such as checking blood glucose levels multiple times per day, to feeling shame or stigma about appearing different from having to take preventative measures while in public, such as injecting insulin or having to locate a source of glucose due to low blood sugar levels (JDRF, n. d.). Some negative experiences individuals with T1D may encounter include feelings of isolation within society due to the small T1D population size, a lack of understanding about what T1D is and what it is not, advocating for oneself due to poor medical support, and feeling stigmatized for having to utilize medical interventions such as lancet devices and syringes (Clarke et al., 2018). Identifying personal strengths and building resiliency has been shown to help those living with a chronic illness such as T1D to increase their quality of life, find support through the T1D community, and re-author their illness-identity (Liesch, 2017).

**Research Question**

This study was guided by the question, *what are the effects of visual narrative on resiliency for an individual living with a chronic illness?*

**Basic Assumptions**

Individuals with T1D face a multitude of adversities that can affect physical, mental, and emotional realms of functioning due to the chronic and pervasive nature of the disease (Casier et al., 2013). When an individual is diagnosed with a complicated life-long illness, a new perspective known as an illness identity may be adopted by the afflicted individual that is frequently accompanied by feelings of loss, grief, depression, and anxiety (Rappaport, 2013). This new identity could cause the individual to experience a loss of who they are and their
purpose in life (Malchiodi, 2013). Re-authoring one’s illness narrative may be a particularly effective mechanism for a diagnosed individual in order for them to move forward and regain a sense of control and purpose in life (McNutt, 2013).

Art therapy has been frequently utilized to help those living with a chronic illness to learn to visually share their personal experiences; to learn new avenues of self-care and positive coping mechanisms; to discover and increase resiliency through visual expression; and to learn how to identify natural supports (Malchiodi, 2013). Art therapy has also been shown to decrease the negative effects associated with a chronic illness including fear, grief, and loss (Wadeson, 2010). Moon (2016) felt that because of its versatility, art therapy can be an appealing therapy choice for those who have tried traditional therapy outlets. The art created in a therapeutic space offers an individual a safe space to explore difficult thoughts and emotions and can provide deep insights into one’s illness narrative to find meaning making and acceptance (Malchiodi, 2013).

The use of creative expression may also provide those living with a chronic illness, such as T1D, an opportunity to give back to their community through the formation of supportive peer groups, and provide individuals an outlet to work together to foster awareness about their illness within the general population (Reed, Kennedy, & Wamboldt, 2015).

**Statement of Purpose**

The purpose of this mixed-methods study was to look for common themes associated with resiliency that may be experienced while living with a chronic illness. For those living with an illness narrative, understanding and fostering one’s resiliency is important to gaining a higher quality of life. Through the use of art therapy via visual narrative, the illness identity may be explored more deeply than with traditional forms of therapy, helping the individual to become aware of their own resiliency while living with a chronic illness.
Definition of Terms

**T1D.** Type 1 Diabetes (T1D) occurs when the body’s immune system attacks the beta cells of the pancreas, requiring the individual to need a constant outside source of insulin, for which there is currently no known cure (Beyond Type 1, n.d.).

**Resiliency.** Resiliency has been defined as the ability to achieve positive outcomes mentally, emotionally, and socially despite adversity (Kain & Terrell, 2018).

**Protective Factors.** Protective factors are elements that contribute to an individual’s resilience and include support from friends and family, self-efficacy, and positive coping mechanism (Hamby, Grych, & Banyard, 2018).

**Visual Narrative.** Visual narrative refers to artmaking as a means to illustrate an individual’s personal and illness story, as well as to foster an individual’s identity outside of their illness story (McNutt, 2013).

**Focusing-Oriented Art Therapy.** Focusing-oriented art therapy is a type of art therapy that integrates mindful awareness, compassionate listening, and access to the body’s innate knowing (Rappaport, 2013).

Justification of the Study

For individuals living with a chronic illness, it is often comforting to know that others who suffer from the same illness may experience similar struggles and can be empowering for individuals to share illness-specific accomplishments (Signs, 2015). Sharing common experiences that may be associated with T1D can help individuals to feel less isolated, stigmatized, and stereotyped (Clarke et al., 2018). Moon (2015) asserted that the things that have the capacity to destroy us can be given life through the creative expression of artwork. Through the physical act of creating visual images that represent internal struggles and
perceptions about T1D, the artist may be empowered in a way that cannot be accomplished through verbalization alone (Moon, 2016).

This study can be used as the basis for a T1D art therapy support group within the local community or to develop a program utilizing creative expression to focus on resiliency for those who live with any type of chronic illness. The results of this study may also benefit individuals who suffer from chronic illnesses other than T1D, such as cancer and Lupus patients, as studies have shown that there are many common themes associated with chronic illnesses in general (Sansom-Daly, Wakefield, Peate, & Bryant, 2012).
CHAPTER II

Literature Review

Chronic illness has been defined as a health condition that persists for longer than three months, and most often persists throughout an individual’s lifetime (Allsop, Negley, & Sibthorp, 2013). The term *illness* is derived from the medical model and refers to an individual’s perception of how their condition is manifested and the manner in which their families respond (Falvo & Holland, 2018). The term *chronic* refers to symptoms that last indefinitely, which stem from a cause that may or may not be identifiable. In addition to T1D, other types of chronic illnesses include cancer, heart disease, autoimmune diseases, epilepsy, sickle cell anemia, asthma, and arthritis (Falvo & Holland, 2018; Omar, 2010). Although chronic illnesses vary in terms of prevalence, individuals with chronic illnesses frequently share illness narrative themes in common, including grief, depression, anxiety, and other feelings related to the loss of health (Rappaport, 2010). Moreover, management of any chronic illness may take a heavy toll on an individual’s self-esteem and negatively affect their sense of identity (Akre & Suris, 2014).

**Type 1 Diabetes**

Type 1 Diabetes (T1D), formerly known as Juvenile-Onset Diabetes, is a chronic autoimmune illness that causes the pancreas to stop producing insulin, can occur at any age, and can affect any race and gender (Babu & Eisenbarth, 2012; Garvey et al., 2016). Although the exact causation of T1D has been debated, an individual may be tested during infancy for the presence of autoantibodies to assess their risk of contracting this illness at some point in their lives (Aas, Tams, Kise, Magnus, & Rønningen, 2010). Currently, there are 1.5 million people living in America with T1D, with a projected 5 million people expected to contract the disease by the year 2050 (Harrington, 2017). T1D has been found to be taxing monetarily, physically,
and emotionally, as a multitude of varying factors usually accompany a diagnosis of T1D (Al Hayek, & Al Dawish, 2019; Beyond Type 1, n.d.; JDRF, n.d.).

A healthy person experiences normal ranges of blood glucose, or blood sugar, around 70-100 mg/dL before eating and less than 140 mg/dL post-meal (Wood & Peters, 2018). Although T1D’s typically try to match these numbers, the normal glucose range for a T1D may fluctuate, with any number below 70 mg/dL being considered “low” and any number above 150 mg/dL “high” (McAllister, 2018). There are many factors that may influence these differences in blood sugar levels: amount of insulin taken, time of insulin dosage compared to when food was consumed, build up of scar tissue, age of insulin, type of insulin used, medication interactions, and hormone levels (Wood & Peters, 2018). The adverse effects of the negative physical symptoms make adequate self-care and adherence to proper medical regimes of high importance (Łuczyński et al., 2019).

**Physical symptoms.** The physical symptoms of T1D may vary greatly depending on the individual’s glucose level (McAllister, 2018). The symptoms of high blood glucose, known as hyperglycemia, are usually a first indicator of T1D even before a confirmed diagnosis and can include: extreme thirst, excessive urination, irritability, blurred vision, frustration, confusion, and slow-healing cuts or sores (Beyond Type 1, n.d.). Advanced symptoms of hyperglycemia may include fruity-smelling breath, weight loss, abdominal pain, vomiting, exhaustion, and eventually, diabetic coma due to diabetic keto-acidosis (DKA; U. S. National Library of Medicine, 2019). DKA is a condition that many T1D individuals may experience during pre-diagnosis due to the toxic build-up of acids within their system and is typically the reason why hospitalization occurs (Manuwald et al., 2019). This condition may happen at any point in a T1D individual’s life as a result of inadequate daily management, such as not checking glucose
levels or taking insulin for meals, and can also occur when a T1D becomes ill due to sickness or infection (Philips & Sinha, 2018). Repeated instances of DKA have been shown to be highly detrimental to kidney and liver function as well as quickening neural side effects such as nerve damage to extremities and retinopathy in the eyes (U. S. National Library of Medicine, 2019).

Additionally, extended periods of hyperglycemia in general have been shown increase the risks for cardiovascular issues (Schofield, Ho, & Soran, 2019). These physical symptoms can briefly come and go throughout a T1D individual’s daily life when their level of glucose fluctuates into higher ranges for any number of reasons such as the miscalculation of carbohydrates for insulin dosage, sickness, allergies, stress levels, and/or due to other types of medicines that affect insulin absorption such as steroids (Wood & Peters, 2018). Due to the many factors found to influence glucose levels, T1D individuals may always be at a risk for adverse physical symptoms, making attention to adequate daily diabetes management highly important for longevity and health (Hill, Ward, & Gleadle, 2019).

The physical symptoms of low glucose, known as hypoglycemia, may be the first indication that an outside source of glucose is needed to prevent a severe low (Manuwald et al., 2019). Symptoms of hypoglycemia include sweating, confusion, shaking, hunger, headaches, and in some cases, changes in personality such as violent aggression (Beyond Type 1, n.d.). If left untreated by an outside source of glucose, extreme lows can result in diabetic seizure, coma, brain damage, and ultimately death, making instances of low glucose more immediately dangerous than high glucose levels (U. S. National Library of Medicine, 2019). If a T1D individual has become unconscious due to low blood sugar, the administration of a glucagon pen may be the fastest and safest way of revival (Gao, Regier, & Close, 2016). The use of a glucagon pen causes the liver to dump stored glucose into the system, reviving the individual, but the
lasting effects can be persist for many days or weeks, as the liver must slowly replenish its lost glucose supply. During this replenishing time, blood sugars can be slightly insulin resistant, further prolonging the individual’s return to normalcy (Wood & Peters, 2018). In addition to the immediate and lasting effects, glucagon pens must remain refrigerated, which can result in the individual not having the pen when they need it, and glucagon pens are also costly, which may cause many T1D individuals to use expired pens or to not purchase them at all (Boss, 2017).

Although a glucagon pen is used for extreme lows, every day lows are easier and more affordable to treat (Wood & Peters, 2018). For daily lows, many T1D individuals may try to always carry some type of fast acting glucose source for emergencies such as chewable glucose tabs, candy, sugar packets, or juice boxes (McAllister, 2018). Typically, the physical effects of lowering glucose may be identified by the individual and treated with glucose before an extreme low occurs (Seewoodhary, Dacruz, Lloyd, & Evans, 2014). When a T1D individual experiences too many lows over an extended period of time or has remained within a lower glucose range too often, hypoglycemic unawareness can result, which can be potentially fatal as the chance for seizure and coma is greatly increased (Rankin et al., 2014). For some individuals who are hypoglycemic unaware, a diabetic alert dog may be a valuable resource for identifying and alerting to impending lows, as well as highs, which can be a great contribute to the overall health of the individual (Gonder-Frederick, Rice, Warren, Vajda, & Shepard, 2013).

**Emotional symptoms.** The physical symptoms of T1D represent only one aspect of this illness, as emotional symptoms are often overlooked, not recognized, or may be suppressed due to the focus on adherence to medical management, a lack of psychosocial education, or due to trying to conform to social norms (JDRF, n.d.). Stress from any source negatively affects areas of metabolic control and interferes with the completion of self-care tasks, which can make a large
impact on health outcomes (Menting, Tack, Donders, & Knoop, 2018). Stressors that are more specific to T1D include pressure to achieve and maintain proper control, ensuring adequate funds for medical supplies, and having adequate and reliable sources of nutrition (Wiebe, Baker, Suchy, Stump, & Berg, 2018).

Additional stressors may include health related concerns, such as the presence of additional illnesses, the prospect of contracting diabetic-related complications, and fertility issues (Northam et al., 2010; Wiebe et al., 2014). Diagnosis and subsequent navigation of a life-long illness can cause feelings of anger, denial, depression, guilt, self-blame, and loss of motivation (Alvarado-Martel et al., 2019). Anger may be associated with the loss of one’s former healthy life and having to conform to rigorous and demanding medical maintenance (Hudson & Moss-Morris, 2019). Denial may stem from a lack of adequate medical management, which may result in higher blood glucose readings and, in some cases, can cause long-term diabetic complications (Clarke et al., 2018; Guerrero-Ramírez & Cumba-Avilés, 2018). Other emotional symptoms may manifest due to blood glucose levels such as feeling irritable or angry when levels are elevated or acting out of character when levels are low (JDRF, n.d.).

**Current Medical Treatments**

The diagnosis of T1D requires an individual to perform an intense daily self-management regime and follow routine medical maintenance from specialized doctors (Guerrero-Ramírez & Cumba-Avilés, 2018; Liesch, 2017). Initially, the maintenance of T1D was complicated and inaccurate which involved the use of urine and dye kits to test glucose, glass syringes with large gauge needles for insulin delivery, and for many years, there was only one type of insulin available (Beyond Type One, n.d.). Modern glucose devices offer a more hygienic and accurate way to test levels, either through small lancet devices or with a continuous glucose monitor.
T1D individuals who use lancets devices must check their blood glucose throughout the day by pricking their fingers to release blood which is then deposited onto a glucose test strip using a glucose meter (JDRF, n. d.). Continual use of a lancet device causes callouses to buildup on fingers, making the extraction of blood gradually more difficult.

Newer technology has introduced different methods of checking blood sugar levels with continuous glucose monitoring systems (CGM) which can be worn directly on the body via integrated medical adhesive and are attached via a brand-specific sensor insertion device (Harrington, 2017). These CGM devices can monitor the body’s glucose levels subcutaneously with a tiny, flexible wire made from platinum-iridium which is connected to an electrode and then sends data to the attached CGM transmitter (Chen et al., 2017). The transmitter then sends the body’s glucose levels every few minutes to a receiver or to a connected smartphone via Bluetooth signal. The CGM must be within a 20-foot range of either the receiver or smartphone to transmit correctly and to alert for the user’s personal settings of high and low glucose alarms (JDRF, n. d.). CGMs can be worn for up to 7-10 days, have been found to greatly increase blood sugar control, can offer glucose trends in real time, and can allow the user to share data with one’s doctors or family members (Wagner, Tennen, & Wolpert, 2012). While a CGM can reduce finger pricks, manufacturers still require calibration input from a glucose meter before meal dosing and CGM systems are costly without the aid of insurance (Harrington, 2017).

Insulin was discovered in 1922 by a research team led by Frederick Grant Banting (Wick, 2017), and is currently the only drug used to effectively treat and manage T1D symptoms (Hackworth, Hamilton, Moore, Northam, & Bucalo, 2013). There are currently two main types of insulin: long acting and short acting (Wood & Peters, 2018). Long acting insulins slowly activate over the course of 12-24 hours and are known as basal dosages or background dose.
Short-acting insulins usually began to act within 10-15 minutes, peak at 2-3 hours, and are usually taken for meals and corrections to bring blood sugars in range (Falvo & Holland, 2018). Previously, insulin had been derived from animal sources and was less effective until the first human DNA based insulin was created in 1978, with subsequent rapid acting human DNA insulin having been created in 1982 (Quianzon, & Cheikh, 2012). In the United States, a T1D must have a valid doctor’s prescription to obtain high quality insulin and can only buy the amount that had been prescribed, which may cause some individuals to ration how much insulin they may use in between refill periods (Cefalu et al., 2018).

Despite modern technologies, insulin is still produced in minimal supply and by only a few pharmaceutical companies (Beran, Mirza, & Dong, 2019). Although cheaper off-brands of insulin may be offered prescription-free at stores such as Walmart, the maintenance regime for these cheaper insulins is different and has been found less effective at successfully controlling blood sugar levels over long periods of time (Abrahamson, 2010). Without insurance, the exorbitant costs of insulin is a major source of concern, anxiety, depression, and for some T1Ds, even death due to extreme insulin rationing (Cefalu et al., 2018; Herkert et al., 2019).

The delivery methods of insulin are either manual injections with a syringe at least four times daily, known as multiple daily injections (MDI), or can be administered continuously via an insulin pump (JDRF, n. d.; Rosner & Roman-Urrestarazu, 2019). Insulin pumps can be either a tubeless device, which must be changed every three days, or they can be connected to long tubing that feeds insulin directly to an infusion set attached to the body, which must be changed daily (Reidy, Bracher, Foster, Vassiley, & Rogers, 2018). Regardless of which type of insulin delivery is chosen, the site where insulin enters the body must be carefully cleaned to prevent
Infection (McMurtry, 2013). In addition, site rotation of insulin delivery must be closely monitored to reduce scar-tissue build up and to prevent insulin resistance (JDRF, n.d.).

The use of an insulin pump can bring new and, at times, frustrating complexities to the already arduous daily management of T1D, as most pump brands require additional training, daily management of pump specific protocols, and pre-authorization from doctors and insurance companies (Al Hayek & Al Dawish, 2019). Insulin pumps are life-altering medical devices for those with T1D, as it can allow a level of insulin control that cannot be achieved with MDI (Harvey, 2015; Viñals, Quirós, Giménez, & Conget, 2019). Pumps use only a fast-acting type of insulin, thus reducing some costs, and allow the user to set multiple basal and bolus rates that can be customized to the T1D individual’s needs on a daily basis (JDRF, n.d.). Although insulin pumps can be extremely helpful at increasing a T1D individual’s quality of life, pumps can also be very expensive, with or without insurance, and some pump brands are only covered under insurance every four to five years, making transition to a different brand difficult (Ghazanfar, Rizvi, Kurram, Orooj, & Qaiser, 2016). If an insulin pump breaks or malfunctions, strict insurance coverage makes it difficult to replace a pump due to high out of pocket costs, especially if the pump is no longer covered under warranty (Reidy et al., 2018).

**Comorbidity**

There are a number of autoimmune diseases that seem to have higher rates of comorbidity with T1D, with up to one-third of individuals having some type of additional autoimmune disorder (Babu & Eisenbarth, 2012). Among the most prevalent are diseases such as thyroid dysfunction (Dabir, Suryanarayana, Prasanna, & Shivaprasad, 2013) and Celiac’s disease (Simpson, Ciaccio, Case, Jaffe, & Mahadov, 2013). Other serious health-related issues...
for which T1D individuals are at high risk include retinopathy, neuropathy, vascular disease, kidney disease, and heart disease (Hackworth et al., 2013).

The treatment of an additional maintenance disease greatly increases the already lengthy daily regime of a T1D individual and can be physically and emotionally exhausting, as well as monetarily depriving (Berlin, Hains, Kamody, Kichler, & Davies, 2014; Beyond Type 1, n. d.). Some diseases such as Addison’s disease, which involves the body’s inability to produce cortisol (Babu & Eisenbarth, 2012), requires the use of medications that cause insulin resistance, such as steroids, which can make healthy maintenance of T1D much more complicated (Egbuonu, Antonio, & Edavalath, 2014). Additionally, mental health issues can present at a higher rate after initial diagnosis rather than existing during pre-diagnosis (van Son, Nyklíček, Nefs, Speight, & Pop, 2015).

Mental Health Complications

For those living with T1D, the nature of the illness is unavoidably entangled with every aspect of daily life (Hill et al., 2019). Control over different areas of T1D may be only temporary or partial, as there is always something new or unexpected to contend with on a regular basis (Storni, 2013). Stress, comorbid illnesses, temporary sickness, fatigue, and hormone fluctuations have effects on T1D that are not always measurable or predictable (Kamody et al., 2014; Menting, Tack, Donders, & Knoop, 2018). Stressors and stress have been found to have both an indirect and direct effect on glycemic control and how an individual may cope with their stress (Kamody et al., 2014). The extent to which glycemic control is impacted seems to relate to how well an individual identifies with family, social supports, and their environment.
Acceptance of a chronic illness can exact a heavy toll upon an individual’s emotional well-being (Guerrero-Ramírez & Cumba-Avilés, 2018) and requires a high degree of responsibility and self-control to maintain quality of health (Murillo, Bel, Pérez, Corripio, & Carreras, 2017). Comorbid mental health issues include depression, anxiety, major depressive disorder (Stahl-Pehe, Lange, Bächle, Castillo, & Holl, 2014), diabetic burnout or fatigue (Fritschi & Quinn, 2010) and diabulimia (Powers, Richter, Ackard, Gerken, & Meier, 2012). Studies have shown that even if no previous mental health diagnosis was reported, T1D individuals have reported occasional struggle with a broad range of emotional issues with varying levels of severity (Clarke et al., 2018). The struggle to accept a chronic illness plays a large role in the daily well-being of those with T1D, especially adolescents, as well as those who struggle with self-acceptance who may be at a greater risk for mental health related problems (Casier et al., 2013). Suicide ideation is also highly prevalent for those with T1D, with the highest rates seen in adolescents (Guerrero-Ramírez & Cumba-Avilés, 2018). This is especially true if the individual has had T1D for an extended period of time, has been generally noncompliant with their medical routine, and if they have a coexisting mental disorder.

Among the added struggles to normal adolescent life, the setbacks of living with T1D are accentuated by the struggle for autonomy due to the amount of control taken away by the limits of having a chronic illness (Akre & Suris, 2014). The frequency of required treatment combined with parenting styles, doctor visits, and hospital stays may result in T1D adolescents experiencing societal obstacles. These include decreased likelihood of completing education, difficulty obtaining adequate skills to succeed professionally and economically, and potential increases in occurrences of depression, anxiety, and behavioral problems (Alison, Negley, & Sibthorp, 2013).
The rigorous maintenance that one must learn in order to achieve a normal range of blood glucose can be complicated and includes checking glucose levels, counting carbohydrates, adjusting insulin dosage, meal planning, when and where to administer insulin in public, keeping medications and testing supplies clean and cool, and staying current with doctor visits and prescription limitations (Wiebe, Baker, Suchy, Stump, & Berg, 2018). The constant daily adherence needed to maintain good health can be exhausting mentally, physically, and emotionally, as well as lead to diabetic fatigue, also known as diabetic burnout (Fritschi & Quinn, 2010). Learning appropriate management routines and techniques is necessary to achieve healthy glucose control and to avoid long-term complications such as neuropathy or heart disease that can contribute to negative mood states (Pelicand, Fournier, Le Rhun, & Aujoulat, 2015).

The aspects of diabetes treatment also conflict with the principles of managing an eating disorder (ED), whether that ED is pre-existing or if it occurs after contracting T1D (Hastings, McNamara, Allan, & Marriott, 2016). Although it was generally thought that there was an increased prevalence of disordered eating with that of T1D, studies have shown mixed results: whereas some studies showed a strong correlation, others did not show any connections (Powers, et al., 2012). Diabulimia is a life-threatening combination of ED behaviors found in the presence of T1D and involves the frequent withholding of insulin dosage to manipulate or lose weight (Falcão & Francisco, 2017). Those who suffer from diabulimia may or may not exhibit traditional ED behaviors, or they may only manipulate insulin dosages and have otherwise normal eating patterns. Diabulimia is life threatening for someone with T1D, as their organs become saturated with glucose overtime, making the chances of DKA more frequent, which can lead to kidney failure, retinopathy, and neuropathy (Goebel-Fabbri, 2017).
The mental health aspects of living with a chronic illness have been found to be just as important as the physical needs that are necessary to remain in good health (Falvo & Holland, 2018). Although the complications of T1D can be emotionally overwhelming for some, others find ways to remain positive and avoid dwelling on negative circumstances (Adu, Malabu, Malau-Aduli, & Malau-Aduli, 2019). For these individuals, participating in disease-specific social exchanges, such as social media platforms, may help to increase and boost the individual’s ability to return to and remain in a positive mood state (Clarke et al., 2018). Although there are some outside avenues of support for those with T1D, such as local and online support groups, isolation within one’s local community is more common due to the overall relatively small numbers of T1Ds within the general population (Hill et al., 2019). Additionally, support that can be gained through family, friends, and even medical providers has been found to be important for overall health and long-term well-being.

**Resilience**

Resilience refers to an individual’s capacity to positively respond to adverse situations they may face, even when these situations pose a potential risk to health or development (Cal, de Sa, Glustak, & Santiago, 2014; Rohan et al., 2015). The development of resilience concerns complex processes that lead to its development and is an important aspect of well-being for those struggling to cope with a chronic illness (Pooley & Cohen, 2010). The exact definition of resilience has been debated, as some believe that resilience is a personal quality for adaptive stress resistance rather than something predictable (Hou, Lai, Hougen, Hall, & Hobfoll, 2019).

Alternatively, others define resilience as a dynamic process that is influenced by both inner self processes combined with processes of the individuals’ environment (Schiraldi, 2017). Studies have suggested that the manner in which an affected individual evaluates their illness can
play an important role in their overall well-being (Casier et al., 2013). Acceptance may directly impact how one pursues important life goals despite being labeled chronically ill, with higher rates of acceptance correlating to increased overall well-being.

Negative associations have been shown to exist between resilience and depression, anxiety, incapacitation, and somatization (Cal et al., 2014; Sharkey et al., 2018). Resiliency has been found to also be positively correlated with increases in quality of life and healthy promotional behavior and may positively influence the processing of one’s illness. Improvement of health outcomes have been increased through the development of preventive measures, such as increasing familial, peer, and community supports, which foster the growth of protective factors of resiliency (Bolton, Hall, Blundo, & Lehmann, 2017).

Protective factors can be defined as the variables that help to explain resilience when faced with risk factors (Oleś, 2015). Identified protective factors that are related to resilience that is experienced while living with T1D are positive coping strategies, self-efficacy, and positive affect (Lord, Rumburg, & Jaser, 2015). Coping strategies include specific efforts employed to master, tolerate, or reduce stress (Jaser & White, 2011). Self-efficacy is directly related to the confidence level an individual may have over amount of motivation, behavior, and their social environment (Strand, 2011). Positive affect relates to the degree of pleasure an individual may derive from engaging with their environment and may help to manage negative thoughts and feelings during stressful periods of time (Lord et al., 2015). These factors decrease the occurrence of the effects of stress and help to foster growth and adaption despite negative experiences (Oleś, 2015).

Three key components that have been identified in the adaptive process are recovery, sustainability, and growth (Zautra, Arewasikporn, & Davis, 2010). The recovery aspect relates
to how well individuals can bounce back emotionally after experiencing a stressful event. Sustainability has been found to be a capacity to continue forward without interruption despite the influence of stressors and involves the ability to sustain meaningful and goal-directed activities (Hou et al., 2019). Experiences that may lead an individual to discover their own resilience can also lead to new insights that foster growth, such as meaning making, which may help these individuals to find purpose, strengthen bonds with others, and gain mastery by overcoming stressful experiences (Yi-Frazier et al., 2017). Due to the influences on glycemic outcome, disease-specific pain experiences, and varying levels of distress, an individual’s self-efficacy has been found to be an especially important protective factor as well as a key in maintaining a high quality of life (Nikita, Hendy, Williams, & Mueller, 2019).

**Therapy Approaches**

There is some evidence that the use of psychological interventions could have a positive impact on physical health, foster mental well-being, and increase the efficacy of protective factors for resiliency in both adults and children (D'Alberton, Nardi, & Zucchini, 2012). Cognitive Behavioral Therapy (CBT) and Brief Cognitive Behavioral Therapy (BCBT) have both been found to be more effective than traditional talk therapy for individuals who experience needle phobias and management issues such as medication adherence and chronic fatigue (Menting, Tack, Donders, & Knoop, 2018; Storni, 2013; Yi-Frazier et al., 2017). For adults living with a chronic illness, CBT was found to significantly decrease the effects of depression, fatigue, and pain (Bernard et al., 2018). A combination of CBT with movement showed a larger increase in effectiveness, with longer movement durations having greater reductions for depression and anxiety symptoms. Techniques for managing one’s illness have also shown to be more effective when integrated within CBT strategies (Hudson, & Moss-Morris, 2019). A
BCBT setting was a shorter duration of traditional CBT, where there were limits to resources and therapist time spent with the client (Wong, Ip, & Lee, 2017). BCBT sessions were more apt to include worksheets, homework, and group exercises, and consequently were especially helpful for individuals who had only recently begun to address their depression and anxiety.

**Focusing-Oriented Therapy**

Focusing-oriented therapy is a six-step method of accessing the body’s wisdom and incorporates inner listening through mindfulness, focusing, and experiencing as an empathic way of being towards oneself that goes deeper than the cognitive thought processes (Rappaport, 2009). Focusing-oriented therapy was developed by Eugene Gendlin based on his experiences working with Carl Rogers in the 1960s as he researched what constituted effective psychotherapy (Ikemi, 2010; Purton, 2010; Rappaport, 2009). Gendlin discovered that clients who experienced successful change were able to access their inner experiences and wisdom beyond their cognitive mind (Ellis, 2013). The six steps of focusing-oriented therapy are clearing a space, choosing an issue and felt sense, choosing a handle or symbol for the felt sense, resonating with the handle or symbol to determine if it fits with the felt sense, asking the felt sense questions, and being open to receiving what the felt sense may have said in response to the questions (Gendlin, 1996).

The first step involves clearing a space by drawing attention inward to the body’s sensations and then taking inventory of how one is feeling about life at that moment (Madison, 2010). When a strong negative or positive feeling or a concern arises, it is set aside until the self-inventory is completed and then given a felt sense. Inventory is not taken of one’s whole life but merely three to six issues that may be affecting one’s peace at the moment (Ikemi, 2010). A felt sense is a physical experience that encompasses everything one feels and knows about a
subject at any given moment and is about anything such as difficult feelings and experiences. Each issue is regarded and sensed in terms of how it is carried within the body and then is placed outside the body at a comfortable distance. Experiencing the felt sense is intrinsic to moving forward and achieving growth (Krycka & Ikemi, 2016; Suetake, 2010). Once the issues are placed, a background or “always on” feeling is checked for and if identified, is set aside with the rest of the issues. Once this is completed, the “all fine place” can be obtained, which grants access to inherent well-being, wholeness, and inner peace (Gendlin, 1996).

The handle that is chosen involves ascribing a word, a phrase, or an image that captures the quality of the felt sense and is then checked for how well it fits or resonates with that sense (Gendlin, 1996). Asking the felt sense questions first involves checking back in with the sense to see if it was still felt or was an issue by using the handle to bring it back. Questions to the felt sense involve using the handle as a mechanism to dialogue with the sense such as “What about this whole thing is so handle?”, “What is really in this handle?”, “What is the worst, the most handle about this whole thing?”, or “What would it need to feel ok?”. Once all questions are asked and attended to, whatever comes in response to each question is received and welcomed as a step towards enhancing one’s life (Rappaport, 2010). Receiving one’s felt sense means that the answers to the questions are allowed to exist and are not rejected however odd or wrong it may seem, as each step comes with a bodily felt release, such as a breath, which is an indication that something is right about the answer.

The Focusing method has been shown to decrease depression in women with cancer, reduce anxiety, depression, and pain for those experiencing chronic pain, and improve body attitudes, and overall quality of life (Rappaport, 2010). Specifically, for those with a chronic illness, the Focusing method may help individuals to take a more caring outlook towards their
bodies and illness and to access meaning to facilitate emotional healing (Krycka & Ikemi, 2016). Utilizing a Focusing Attitude helps to create an inner place of welcoming for the process to take place by welcoming all thoughts, feelings, and felt senses that may arise. Key aspects of the Focusing Attitude include being friendly to what arises, keeping a stance of friendly curiosity, being welcoming, and keeping company with the whatever may be happening internally (Gendlin, 1996). The Focusing Attitude has also been found to create a safe inner holding space for the Focusing process to unfold by accepting and loving the felt sense rather than trying to simply understand it (Rappaport, 2010).

Mindfulness practices have been found to not only serve as a buffer against stress for individuals living with a chronic illness, but such practices may also mitigate depressive symptoms (van Son et al., 2015). Correlations between mindfulness and movement have also been shown to reduce stress and increase quality of life while participating in activities such as breathing techniques and yoga (Desveaux, Lee, Goldstein, & Brooks, 2015). Interventions that employ mindfulness and breathing regulation techniques help to foster nonjudgmental awareness to the present moment, with the duration of interventions varying greatly from short sessions lasting two weeks or less, to longer 10 week sessions (Schumer, Lindsay, & Creswell, 2018). The reduction of cortisol through mindfulness techniques has been shown to be an important factor in healthy regulation of blood sugar levels and overall well-being (Kiken, Shook, Robins, & Clore, 2018).

**Art Therapy**

Art therapy has a unique capacity to provide healing in a wide variety of circumstances where traditional therapies may not as effective, as many techniques within art therapy provide stimulation along multiple areas of the brain (Hinz, 2019; King, 2016; Malchiodi, 2012). Art
therapy has been found to be a versatile method of healing and can be utilized along with other methods of therapy, such as narrative therapy, to enhance the overall therapy process (Cobb & Negash, 2010). The physical act of creating art can evoke emotional and physical responses that traditional talk therapy may not elicit (Abbott, Shanahan, & Neufeld, 2013; Lusebrink, 2010; Moon, 2016). The created art piece serves as a container for the focus of the therapy session and acts as a visual witness to the artist’s message to help them process and uncover meaning within their therapy work (Malchiodi, 2012). Using art therapy to help someone process their chronic illness can offer individuals a method to express ongoing and past medical issues, as well as provide an outlet for the individual to work through pain and emotions associated with their circumstances (Malchiodi, 2013). Artworks created through this process are tangible, and through dialoging with the image or using active imagination, deeper meaning can be uncovered, and untapped strengths found (Moon, 2016).

Art therapy has been shown to decrease negative affect and mood states, including depression, anxiety, and fear, and has been shown to increase positive states such as self-worth and self-care which in turn foster resilience-building and lead to stress reduction (Abbott et al., 2013; Councill & Phlegar, 2013; Graves-Alcorn & Kagin, 2017; Handler, 2014;). Wadeson (2010) wrote that art therapy provides a sensitive modality for those struggling with medical conditions where they may explore changes brought on by their illness. Those who have experienced hospitalization may feel extremely vulnerable, isolated, and frightened as they must endure medical procedures that may be difficult to comprehend at the time (Nabors & Liddle, 2017). Art therapists have worked in such hospital settings and through art, provided patients with an outlet to vent feelings, as well as a method in which to take some control over their situation (Malchiodi, 2013; Wadeson, 2010). The non-medical relationship that the art therapist
can provide may help to strengthen trust in the therapeutic process and alleviate difficulties that the patient is experiencing.

The creation of art can act as an effective mode of communication for a patient to express their medical challenges and provide a way for someone living with a chronic illness to explore the meanings of their illness, death, and dying (Arnett & Malchiodi, 2013). Providing a safe outlet for the exploration of difficult topics, such as death, has been especially beneficial for those who struggle with treatments and psychosocial issues. Whereas medical terminology can be dense and unfamiliar, art making provides an outlet for creating visual vocabularies that help patients and families to understand the diagnosis and treatment processes (Council & Phlegar, 2013).

Art making through visual narrative can offer a way to explore personal themes or questions and can be a valid tool for gaining increased understanding (Malchiodi, 2012; Salom, 2013). Transforming individual experience for those struggling with a chronic illness through visual narrative increases support and helps individuals to retain their identity outside of their illness (McNutt, 2013). A study showed that those with a chronic illness who viewed themselves as illness-bound created artwork that was defined by limitations associated within the illness, while those who lived beyond the illness created artworks defined by possibility (Reynolds & Vivat, 2010). This illness-identity shown through the creative process had a similar correlation to that of recovery, sustainability, and growth associated with that of the resilience adaptive process.

**Narrative Therapy**

Narrative therapy involves the retelling or reframing of one’s story to positively change the perspective of the affected individual (Ricks, Kitchens, Goodrich, & Hancock, 2014). The
goal of narrative therapy is to separate the problem from the individual and once achieved by externalizing the presenting issues, individuals then work on their relationship with their problem (Egnew, 2018). Past events of an individual may be examined first, followed by their present life and how they see their future as the story is reframed and each event given a new context. Narrative therapy has been shown to pair well and be especially effective when combined with expressive art therapy modalities (Cobb, & Negash, 2010; Gonzalez de Armas, Archibald, & Scott, 2017).

These expressive techniques utilized within the narrative therapy process include using visual expression to create narratives within artworks that can then be dialoged with and examined for the underlying information about the individual’s personal narrative (Gonzalez de Armas et al., 2017; Rubin, 2016). Narrative therapy has been found to be helpful for individuals with chronic illness by helping them to edit their illness story in order to gain acceptance and to find personal meaning within their circumstances (Egnew, 2018). Personal meaning is an important construct in overcoming and transcending one’s illness narrative by seeking a new purpose that stems from one’s personal suffering.

Retaining some degree of control over one’s illness identity has been an area of success for those having T1D for some time and is strengthened through positive coping mechanisms learned through the use of narrative therapy techniques such as journaling (Yi-Frazier et al., 2017). Journaling is a form of personal narrative through written or visual expression and is shown to be beneficial for those with chronic illnesses by helping them increase and sustain positive affect through expressing thoughts about gratitude and personal experiences (Moskowitz, 2010). When combined with mindfulness and creative expression, narrative therapy has been found to be useful for exploring and expanding one’s illness narrative rather
than one single form of therapy (Abdalla, & Novis, 2014; Gibson, 2018; Stuckey, & Nobel, 2010).

**Focusing-Oriented Art Therapy**

Focusing-Oriented Art Therapy (FOAT) is an integration of Gendlin’s Focusing method with that of art therapy, with the most important principle being that the safety of the individual comes first before any intervention (Rappaport, 2010). Many people with chronic illness may lose a portion of their sense of self or may lose themselves completely within the identity of the illness (Malchiodi, 2013). FOAT grants access to an individual’s internal sensations, which can cause buried or hidden issues to be revealed. Because of this, maintaining the focusing attitude is very important by using grounding exercises, such as intentional breathing. As with Focusing, art making gives the individual the ability to access a felt sense which informs them of what is occurring within the body. The artmaking process is different in that it utilizes a physical act of creating in order to help facilitate the felt sense (Rappaport, 2010).

Clearing the Space with art has been shown to be a highly effective stress reduction method as it concretizes and symbolizes the felt sense of the issues being set aside and the All Fine Place is also directly visualized through art making (Rappaport, 2010). FOAT has been beneficial for individuals with a chronic illness as it provides a method for working through unresolved issues and grants new ways of accessing healing and learning new avenues of self-care. Theme-Directed FOAT takes advantage of the specific themes of a chronic illness and can be used to increase resiliency by concentrating on sources of strength, resources, and supports in order to learn coping skills and increase self-care (Rappaport, 2010).

The art piece that is created during Focusing is used to gain additional insights and to access meaning making (Rappaport, 2010). As a tool, the art piece is used in an objective
description where the elements of color, line, shape, images, and other formal elements are explored to increase grounding and to organize one’s visual thinking. Using active imagination to engage the individual with the image, as well as storytelling, dialogue, and Gestalt methods can all be incorporated into the process to expand creativity and to access greater meaning and insight. Storytelling with art involves the individual using elements within the art piece to create a story; these elements then convey symbolic meaning and may be projections of one’s inner experience (Cobb, & Negash, 2010). Through the use of dialogue, the art-maker spends time contemplating the piece and then begins to ask the whole art piece, or parts of the whole, questions. Through projective methods, the individual can then speak from the perspective of the art by using the word “I” to give each specific element of the art or the entire artwork at once a voice and if different parts were used, they were spoken to each other in a dialogue (Rappaport, 2010).

Summary

T1D has been found to be a complicated chronic illness to navigate, both emotionally and physically. Although advents in medical technologies continue to improve the interface of T1D management, the emotional tolls from daily management and related health factors continue to present complications for those living with this chronic illness. A review of the literature shows a multitude of information on the medical issues associated with T1D, however, there seems to be a lack of adequate mental health support for T1D related issues (Clarke et al., 2018; Ducat, Rubentstein, Philipson, & Anderson, 2015; Garvey et al., 2016; Markowitz & Laffel, 2012). The most effective approaches for individuals who experience a chronic illness have been those that combine different aspects of multiple therapy methods, such as telling one’s illness narrative, mindfulness and focusing, and creative expression through art therapy (Egnew, 2018; Malchiodi,
2013; Vos, Craig, & Cooper, 2015). Although there seems to be measured success with more traditional therapies, the utilization of art therapy in tandem with narrative and focusing approaches have yielded positive outcomes on both physical and emotional aspects to increase and grow resilience with those who suffering from a chronic illness, such as T1D.
CHAPTER III

Methodology

This mixed methods study utilized both qualitative and quantitative approaches, incorporating Moustakas’ six stages of heuristic study, the Protective Factors for Resiliency Scale (PFRS) developed as a pre and post measurement tool (Harms, Pooley, & Cohen, 2017), and an art directive shown to have correlations to resiliency. Each week of the heuristic process was themed according to the stages of grief and Focusing-Oriented Art Therapy exercises served as a method to guide the visual narrative of this researcher’s experience of 18 years living with T1D. Additionally, in order to show the comparisons and connections of resiliency that were associated with T1D, a voluntary SurveyMonkey with specific questions about the T1D experience was created and participants were recruited anonymously from a closed FaceBook T1D support community.

Participants

The participants in this study were this researcher and other T1Ds from an online T1D Facebook community. This researcher was 34 years of age and was diagnosed with T1D at 16 years old after several months of declining health. The ethnic background of this researcher was predominately Scotch/Irish with a small mixture of English, French, and German heritage. This researcher had a long background in art, from learning art techniques early on as a child to graduating college with a Bachelor’s in Fine Arts and obtaining a certification to teach all levels of art in Texas, and finally sought a culmination of education with a Master’s of Art Therapy degree by the end of 2019.

Up to 100 members belonging to Type 1 Diabetes Support Group, a closed FaceBook group, were invited to complete the online survey, of which a total of 44 volunteers participated.
A post for a general inquiry was added to the T1D Facebook page seeking volunteers with an attached link to the consent form and the SurveyMonkey questionnaire within the general inquiry. The demographics of the targeted FaceBook page were widely varied, with many different ethnicities, nationalities, and ages making up the members. This study allowed any member who wished to participate in the survey to do so, with the exception that participants must have been 18 years of age or and older for the purposes of consent and to constrain data to adult developmental stages only.

**Research Design**

Facebook users who indicated a willingness to participate answered yes/no questions as well as questions that allowed them to elaborate on meanings and personal opinions. There was an option at the end of the survey for additional interviewing by either email or phone per their personal preference, along with the appropriate consent forms if they chose to be interviewed. The purpose of this survey was to enable the researcher to assess for common themes which related to living with T1D and to compare them with this researcher’s own personal T1D themes gathered through the heuristic process. The purpose of additional interviewing was to gain further detail and depth into the lives of T1Ds, to add strength to expected themes, and to gather any unexpected themes that may not have been considered.

The six stages of heuristic study by Moustakas (1990) were used for the researcher’s personal reflections on her experience with T1D. The heuristic process developed by Moustakas has been proven to be an enlightening method of research for answering transformative questions about illness (Linders & Lancaster, 2013; Shaw, 2014). The six stages included initial engagement, immersion, incubation, illumination, explication, and creative synthesis.
1. The initial engagement stage consisted of identifying the core themes that seemed to connect individuals within the T1D community. These themes were of great importance to individuals within the T1D community because they showed the strengths and resources that were cultivated through daily survival with a chronic illness. Identifying these themes and sharing them with the T1D community had potential to harbor inclusivity and support within that community.

2. Immersion involved the search for themes that were acutely felt and lived by the researcher in order to gain a complete and intimate understanding of them.

3. Incubation required that the researcher retreat from these deeply felt themes and become somewhat detached to allow growth of knowledge about them to progress naturally through intuition and tacit knowing.

4. Illumination proceeded naturally from the incubation stage once the researcher was open and receptive to tacit knowledge and intuition and resulted in a breakthrough or awakening that added new dimensions of the identified themes.

5. Explication was the fifth stage and allowed the researcher to fully examine the breakthrough or awakening brought about during the illumination stage. It was during explication that the researcher identified new themes that were previously not considered.

6. Reactive synthesis was the culmination of the heuristic process with the knowledge and insights gained by the researcher being brought to life through creative expression via visual narrative.

   Within a handmade Coptic sketchbook, this researcher created a series of 36 visual expressions along with many pages of written journal responses describing the meaning of each
art piece, as well as this researcher’s thoughts and memories about each week’s theme. The creation of a handstitched multimedia sketchbook, rather than a premade one, provided the researcher with a unique and versatile container in which to hold the personal and intimate information of the heuristic process.

Research Instruments

Online survey. A customized questionnaire created with SurveyMonkey.com (see Appendix A) was used to gather data on expected themes within the T1D community. The ease of access of online surveys was a desirable method of obtaining data since the growth of smartphones and tablets has increased dramatically since 2013 (Cook, 2014).

1. Participants answered several yes/no and multiple-choice questions and were asked to provide open-ended questions to elicit opinions from the participants. At the end of the survey, participants were given the opportunity to further tell their T1D story by opting to complete an additional interview (see Appendix B), which was completed after the survey and conducted through email. Appropriate consent forms were linked to the interview option that were completed after the initial survey. To ensure confidentiality, all information gathered through this optional survey was not linked to participants’ original survey responses.

2. Questions from the survey included yes/no options as well as opinion-based options: Do you feel like you have control over your disease? Have you ever wanted to give up? Do you feel supported by friends and family? Have you ever felt lonely or isolated because of your disease? Have you ever felt ashamed or guilty because of your disease? Do you feel supported by your doctors? Have you ever felt stigmatized because of your disease? The optional interview consisted of 22 questions such as: How long did it take you to get
used to living with T1D? If you are still struggling, what makes it worse and what makes it better? Do you feel as though having T1D has made you a stronger person and if so, in what ways are you stronger? How do you think a T1D can be resilient and why? Do you feel as though you have accepted being T1D? In your own words, what are the negatives and positives of having T1D? Is there anything you would like to share that has not been asked?

**Rating scale.** The Protections Factors for Resilience Scale (PFRS; Harms, Pooley, & Cohen, 2017; see Appendix C) was utilized during the heuristic portion of this study as a pre-post measurement tool in order to assess the impact of visual narrative on resiliency. The PFRS is a 15-item questionnaire that has been shown to be an accurate tool in measuring protective factors of resilience. The questions of the PFRS are rated on a Likert-type scale from 1 to 7, from “agree” to “disagree”, and covers a range of areas, including personal resources, social resources associated with one’s family, and social resources associated with one’s peers. Examples of items include: *I can deal with whatever challenges come my way, my friends look after me, and I feel safe within my family.*

The PFRS has been shown to be a psychometrically reliable multidimensional tool with adequate construct validity illuminating the pattern of associations between resilience and various coping styles, self-esteem, and life satisfaction (Harms et al., 2017). Compared to similar scales, the PFRS drew a clearer distinction between personal protective factors than other scales and was much shorter, making it beneficial in reducing participant load. Due to the strong results of the PFRS, measurement error was less likely to adversely impact observed effects.

**Art images.** Over the course of six weeks, a series of visual narratives were completed using FOAT exercises to demonstrate this researcher’s own personal themes about resiliency that
have evolved from the T1D experience. These art pieces were kept within a handmade Coptic sketchbook (see appendix D) and explored the meaning of resiliency through six different stages of the grief process. Each week a separate stage of grief was explored by this researcher: Pre-Diagnosis (see appendix E), Diagnosis (see appendix F), Denial (see appendix G), Struggle (see appendix H), Acceptance (see appendix I), and Strength (see appendix J). On day one of the first week, this researcher completed the PFRS within the narrative journal and the first Initiative 10: Images of Pain and Healing (see Appendix K) to establish a pre-scale of resiliency and a beginning of the visual narrative. The art directive, Initiative 10: Images of Pain and Healing (see Appendix L), used two opposite expressions and explored them both individually and together in a series of three paintings (Graves-Alcorn & Kagin, 2017). By providing a method to focus on pain and healing separately, this specific art directive used the integration of contrasting emotions to symbolize acceptance and resiliency. Size and use of space may have reflected how the researcher coped with painful feelings, while the use of color was assessed in relation to the experience. The three paintings were laid side by side and explored for meaning in pain, healing, and the integration of the two.

After the pre-scale and art were created, the first week entailed the processing of the theme pre-diagnosis in the art journal by using the six steps of the FOAT exercise method (see Appendix M). The art journal was used to generate and contain dialogue between the researcher and the art piece to discover deeper meaning and to explore personal insights. At the end of the six weeks, the PFRS and Initiative 10: Images of Pain and Healing were completed again (see Appendix N) and compared to the previous scale and directive to determine what type of effect the six weeks of art making had on this researcher’s resiliency.

Data Collection and Analysis
The collection of data comprised results from the survey, email interviews, personal documentation by this researcher of the heuristic process, and themed visual narrative created by this researcher. The gathered data was kept secure and confidential by not collecting any identifying personal information and through coding of surveys and was stored on a password-protected external hard-drive, (AATA, 2018; Texas Health and Human Services, 2015). The volunteer survey data was analyzed and coded using the in vivo process, which involves using the participants own language to search for common themes relating to resilience gained through the T1D experience (Saldaña, 2016). The research journal was kept during the heuristic process to document this researcher’s progress through Moustakas’ six stages and used for notes on the coding process of gathered data from the T1D surveys and interviews. The data from the heuristic portion was compiled, organized, and coded using the in vivo process and then compared to the codes gathered from the surveys and interviews from the participants of the T1D community. Coding the data from the artwork consisted of looking at the use of color and the personal meaning of color use, repeated elements such as nature, different qualities of lines, and personal symbolisms and metaphors.

Validity and Reliability

The validity and reliability of a heuristic study of this nature relied on the ability of the researcher to be open to oneself to engage in honest dialogue with the created visual narrative (Moustakas, 1990). Heuristic methodology is a qualitative process wherein one may discover themes through the essence of experience. The validity depended on the judgement and interpretation of the researcher with the researcher’s “constant appraisal of significance” and “checking and judging” throughout the process (p. 33).
The expression of the different themes through the utilization of art methods was valid as a personal narrative yet may not have been reliable due to the very nature of art existing as something personable and not fixed to a singular definition. Similar heuristic studies have shown the validity of researcher as participant as the lived experience, subjectivity, and reflexivity become the primary sources of the research process (Hughes, 2015; Linders & Lancaster, 2013; Shaw, 2014). The validity of the voluntary survey component was increased through the structure of the survey, with questions having open ended answer options and a section for additional thoughts. Per Sue and Ritter (2012), online surveys employing open-ended questions may have a high degree of validity because respondents are not forced to select from a list of predetermined responses.

**Ethical Implications**

Due to the nature of heuristic study with the researcher as participant, there was a need to possibly see a licensed counselor or therapist during the study to ensure that the researcher remained grounded. Art therapy research is guided by standards that oblige the researcher to respect the dignity and safeguard the well-being of research participants (Moon, 2015). The American Art Therapy Association (AATA, 2018) provides public access to the Ethical Principles for Art Therapists to ensure the safety and well-being of anyone working with an art therapist, as well as provides education regarding the ethical practices of art therapy.

Per the ethical code of AATA (2018) and the Texas Health and Human Services ethical code (2015), reasonable precaution to ensure participant safety was covered within the survey consent forms which pertained specifically to the type of data being collected, and this was also true of the consent forms for the optional interview. Participants were given the option to opt
out at any point during or after the survey process and could notify the researcher if they had chosen to do so.

**Researcher Bias**

This researcher has been a T1D for 18+ years and was also seeking a Master’s degree within the field of Art Therapy. It was this researcher’s belief that art therapy can greatly enrich the lives of other T1Ds and provide a safe and therapeutic outlet for processing the constant issues that accompany the chronic disease. It was also this researcher’s belief that routine maintenance of processing how one feels about one’s position in life is essential to emotional, mental, spiritual, and even physical well-being. To help minimize researcher bias, the data from the survey and heuristic process were coded and reevaluated three times during different weeks to help challenge initial impressions and assumptions. Artworks were evaluated after they were created and again after some time had passed to help create distance from first impressions.
CHAPTER IV

Results

The overarching theme that arose from the data of this study was that through adverse experiences associated with T1D, individuals can move past simply surviving and learn to thrive. Within this overarching theme of thriving, three positive and negative themes with accompanying subthemes relating to the protective factors of resiliency were found: (a) acceptance and need for more control (positive subtheme of self-efficacy and negative subtheme of shame), (b) technology and depression (positive subtheme of coping strategies and negative subtheme of loneliness), and (c) acceptance and disease as a label (positive subtheme of positive affect and negative subtheme of stigma).

Thriving Instead of Surviving

The concept of thriving through one’s adverse T1D experiences was a reoccurring topic across multiple survey questions where individuals made references to successful management, duration of illness, and level of positive affect maintained through the chronic illness experience.

“Honestly, I really do not remember much of my life without diabetes. It has been a part of my life for 31 years. So, because of that, I suppose, it’s not hard to stay positive.”

“Sometimes it’s hard, there are days when you don’t feel well and just want to give up, but you know you can’t. But then I remind myself how far I have come, and I enjoy the small victories.”

“There is no other choice! I just do the best I can and know that’s enough.”

Through the in vivo coding process, the gathered data from the survey and optional interview (see Figure 1) show that resilience may not only be a common and important factor
related to the T1D experience, but that resilience may be an integral aspect to how an individual moves past simply surviving and learn how to thrive within their chronic illness narrative.

Figure 1. Thematic analysis chart of the online survey.

Additionally, the in vivo coding process of the visual narrative entries showed that the concept of thriving was found to be a key element of this researcher’s own level of resilience. A thematic analysis of the visual journal process (see Figure 2) shows how the stages of grief and
the protective factors of resilience are connected to form a framework for this researcher’s personal concept of thriving within her chronic illness narrative.

*Figure 2.* Thematic analysis chart of the visual narrative Coptic sketchbook.
The artworks in Figure 2 were organized within the weeks in which they were created to show a progression of the visual narrative process. Artworks were analyzed for elemental content such as line, shape, color, placement in order to gain insights about this researcher’s level of resiliency and to establish a personal visual vocabulary. The weeks are represented as colored bubbles and titled with the stage of grief that was explored. The blue colored lines stemming from the weeks represent the influence of positive connections, while the dark grey lines represent the influence of negative connections. The protective factors are outlined in the center with blue circles, with the risk factors represented beneath with grey hexagon outlines. As a result of this type of organization and coding process, the thematic chart in Figure 2 demonstrates a visual representation of the overarching theme of thriving instead of surviving.

**Acceptance and Need for More Control**

The stage of the grief process that had the most positive influence on all protective and risk factors was acceptance. Acceptance was also found to be the hardest stage to reach and acknowledge but once embodied, allowed for the development and growth required to move forward. These feelings about acceptance and the amount of control over T1D that has been achieved are connected to the concept of thriving and are reflected through this researcher’s notes during the visual narrative process:

“Once I learned to accept my fate and to not fight myself, my every day journey became easier and I learned that it was ok to not be in control 100% of the time; to take each day as it came and if things didn’t work out or if I felt bad, that it wasn’t my fault and it would get better eventually. It took a long time to reach a place of acceptance but once I did, I found that I did not cycle back as often through feelings of being overwhelmed and depression. I guess I learned over time how to move on and move forward. Being on a
tubeless pump and having a dex has helped tremendously with this feeling of moving forward and those things have also helped me to feel physically better the longer I use them; I can’t really imagine life without those things now.”

From the T1D community, acceptance and need for more control was shown in responses where the participants made reference to overcoming the challenges presented to them:

“Diabetes is a disease that requires constant respect and attention. However, it does NOT define what you can do, and who you are. I stay positive by controlling my diabetes, not vice versa. I kick T1D’s butt and enjoy seeing the fruits of my attention to the disease.”

**Self-Efficacy.** Using the PFRS for the heuristic process, an increase was seen in the areas of self-efficacy and positive affect. The post-PFRS was nine points higher than the pre-PFRS, indicating a small increase in the researcher’s protective factors from utilizing the visual narrative process. Additionally, the comparison of the pre and post-Initiative #10 pain images (see Figures 3 and 4) revealed that this process also positively changed how the researcher viewed her pain.

![Figure 3. Pre-initiative #10 pain image.](image1)

![Figure 4. Post-initiative #10 pain image.](image2)
The post-pain image in Figure 4 showed the pain as smaller and isolated as more manageable issues, instead of one bigger problem as shown in the pre-pain image of Figure 3. This process positively affected this researcher’s self-efficacy, as it was found that using artworks to explore her illness narrative helped to put issues into focus that normally may be overwhelming and allowed her to see these issues as easier to manage.

The pre-Initiative #10 healing image (see Figure 5) demonstrates how the researcher normally process and incorporates obstacles that interfere with well-being and illustrates the feeling of pain and disconnection caused by the researcher’s experiences through living with T1D for 18 years. The pre-Initiative #10 integration image (see Figure 6) represents this researcher’s level of self-efficacy by merging and healing the pre-pain and pre-healing image through the use of form and color.

Figure 5. Pre-initiative #10 healing image. Figure 6. Pre-initiative #10 integration image.

The pre-integration image in Figure 6 shows how the pain is being transformed and actively used as a positive aspect of growth. A connection found throughout the visual narrative process was that for this researcher, the color blue represents connection, wholeness, and life.
“Blue has been my favorite color since I was little and has always represented calm, healing, tranquility, and comfort. I have always resonated with blues and have used visualization of blue shades as a way to distract myself when I would experience pain. The integration of many colors within the blue tones represents a wholeness for me that the use of a single color cannot offer.”

Additional commonalities included elements of nature, use of color, representation of self through animal metaphor, and central placement within the paper, suggesting the effectiveness of this researcher to cope and find acceptance through strength. The progression of these artworks represents for the researcher her ability to acknowledge and find growth from obstacles and pain that was caused from living with T1D. These first images began the heuristic process and showed the researcher’s initial level of coping with her T1D as one of acceptance and acknowledgement.

The stage of denial showed that the researcher’s self-efficacy was negatively impacted through imagery (Figure 7) that suggests the desire to not be a T1D; being overwhelmed by the lack of control (Figure 8); and wanting to escape by cocooning herself away from the darkness of life as a T1D (Figure 9).

*Figure 7. Eyes Wide Shut. Figure 8. Anywhere Else. Figure 9. Encased.*
The artwork from the stage of struggle represents the overwhelming challenges of trying to grow within adverse circumstances (Figure 10), and managing all the different pieces related to T1D (Figure 11). In Figure 12, a visual representation of the highs and lows of blood sugars and how these states feel resonates with the chaos and confusion of Figure 11.

“Sometimes the amount of work it takes to make it through one day is exhausting. The number of things I have to keep track of at all times has become second nature but is still overwhelming and the lack of good control can really get me down at times.”

Figure 10. Surviving, Not Thriving.

Figure 11. Pieces.

Figure 12. Cascade.

Figure 13. Tedious.
The word “tedious” on a black and white swirling background in Figure 13 represents the amount of energy and commitment it takes each day to achieve successful management. These aspects were found to have reduced the researcher’s self-efficacy when she feels stressed, overwhelmed, or out of control when managing her disease.

The survey results showed that self-efficacy was closely related to the success that participants had of controlling their disease. Other related factors that increased self-efficacy were being able to relate to other T1Ds, confidence in one’s disease management system, and record keeping. Participants shared similar sentiments that this researcher found through her own process, showing how T1Ds may be connected by factors influencing self-efficacy.

“You have to stay on top of things 24/7…It is part of life now, sometimes I feel frustrated because my glucose does the opposite of what they are supposed to do but for the most part I deal with it.”

“It is just a part of me, something I have to keep control of.”

“I think T1D is a manageable disease provided you properly respect the disease…”

“I refuse to let it control my life…”

Successful control was an important concept that influenced self-efficacy and was closely tied with the use of technology such as insulin pumps, continuous glucose monitors, and record keeping strategies.

**Shame.** Through analysis of the artwork, it was found that shame was directly influenced by the stage of denial, with the stage of acceptance having the largest positive influence. Through the journaling process, the researcher shared that when she was newly diagnosed, she would hide her illness from her peers by not taking injections on time while at school or by not eating when she needed to and instead, waiting long periods to inject insulin.
when she got home or eating without taking any insulin at all. Taking shots made her feel different than her peers, like she was doing something wrong and felt judged for having to check blood sugars. These feelings made her struggles harder and further increased her denial that she needed to accept her chronic illness as a part of her new life.

The expression of these feelings of shame are visualized in the artwork from the stage of denial (see Figure 14). A black background with a blue door has the phrase “Old you” on the outer door and “Now you; Things change” on the inside with many protruding sharp spines that seem to pierce the words. The visual process helped to express these feelings of shame and to transform them during the stage of acceptance (see Figure 15), where the posttraumatic growth caused from shame associated with being T1D has been overtaken by the researcher’s symbolism of the color blue as a source of healing.

“Having to take shots and stick my fingers in front of my peers at high school made me feel uncomfortable and misunderstood as I would get judgmental questions as to why I had to do those things. I found very little support at school and soon retreated into
myself, becoming more introverted and reclusive while having to be at school.

Eventually, I dropped out of regular school to finish my courses through an online program that I could do from home.”

The survey results showed that the concept of an individual’s core belief was closely related to the protective risk factor of shame. These feelings of shame were found to be in association with how individuals felt at the time of diagnosis as well as how they currently felt about being T1D. Other areas that were found to be tied to shame included weight gain due to insulin use, the high cost of medical equipment, and a lack of adequate disease control.

“It was a major change in my life, I did not want to be different than my peers.”

“I was a good student, it was a big shift in the mind of a teenager.”

“I wanted to keep it a secret, I was bigger so I didn’t want others to know.”

**Technology and Depression**

**Coping Strategies.** The thematic analysis of the artwork showed that the theme of coping strategies appeared to be positively affected by the stages of strength, acceptance, and pre-diagnosis, while being negatively affected by the stage of diagnosis. The artworks that showed the researcher’s coping style had elements of nature and representations of self through animal symbology. The representation of a healthy and growing garden (Figure 14), was depicted as this researcher’s safe space and the oblivious caterpillar with the word “germination” (Figure 15) showed her care-free pre-diagnosis state. Feeling a deep connection to nature stemmed from early childhood when the researcher would stay with her grandmother and learn how to care for different types of plants and flowers, and subsequently became an intrinsic aspect of personal self-care and coping.
Elements of nature appeared 15 times in the visual narrative process and were found to have a connection with how this researcher copes with stress such as being in or thinking about nature to relax and to feel calm. The surprising theme that arose from the stage of coping strategies was the importance of the identity of this researcher as an element of effectively coping. The effects of being diagnosed were impactful in ways that were not seen before working through the stages within the artwork. Although nature had always been a place of relaxation and comfort, the intrinsic connection to the symbolism of the elements of nature and those of the grief process were illuminated through the visual journaling process. This gave the researcher reflective distance to better understand her identity as a T1D and how to see past the illness in order to recognize areas that have been strengthened.

“I thought I knew who I was before I was sick and having to live a life unwanted showed me how much I did not know I was capable of back then. I feel sometimes that being a T1D brought out the best in me once I was able to accept things for how they were. Now, I can see where I have been and that helps me to know where I am going.”
The handprints in Figures 16 and 17 showed how this researcher went from hopelessness to accepting the things that are out of her direct control to change. Creating the handprints involved directly touching the paper with the paint and represented the researcher’s medical trauma experienced over the years. In Figure 16, the bloody handprint took away the beauty of the researcher’s safe place that was seen in Figure 14. Subsequently, this trauma negatively impacted the researcher’s identity as a healthy person, as her safe place was made unrecognizable.

In the stage of acceptance, the less bloody handprint in Figure 17 had changed and integrated with the environment and while it still showed blood dripping from a wound on the index finger, the circumstances had been healed and accepted as important aspects of this individual’s well-being. This represented being able to move forward and grow past the medical traumas of the stages of diagnosis and subsequent denial and struggle. The artwork illuminated how it was through acceptance and strength that this researcher was able to overcome the
negative influences of diagnosis and that subsequently, the artmaking itself can be used as a coping mechanism to increase positive affect through the act of creating.

“As someone who will never not need medical care and medicine 24/7 to live, having a healthy, safe, and expressive outlet has been my biggest source of self-care. Before art therapy, I used other ways for self-care, but artmaking takes that care to a deeper level as it allows what is hidden from me to be revealed so that I may acknowledge it and process.”

A second parallel that arose between the stages was the use of imagery from the area around the Grand Canyon as a symbolic representation of where this researcher learned her primary coping skills. In the stage of pre-diagnosis, the researcher illustrated with watercolor (see Figure 18) a combination of scenic locations from her memory of her childhood trips with her family to Lake Powell located in Utah and Arizona.

*Figure 18. Possibilities.*

“As a child, we would visit my grandparents and spend days out on Lake Powell on their boat, traveling up the lake and sleeping under the stars. I loved everything about these
trips, from the airplane rides to the lingering lake smell after being out several days. The scenery was breathtaking and symbolizes the strength and resilience that it takes to live there. It is a place of wonder, peace, and is spiritually recharging.”

Through the heuristic process, this particular location was found to be intrinsic to how this researcher learned to cope successfully with challenges early on, as the desert landscape became a symbol of strength and thriving in harsh environments. This idea of thriving was found to be important to this researcher in the stages after diagnosis as she gained important skills to better cope with her disease management and began to learn how to find strength through the adverse circumstances that T1D presented her with on a daily basis.

In Figure 19, created during the last week in the stage of strength, the image of the same desert area was used along with a new representation of a nature-self that was symbolic to gaining the necessary survival techniques that can allow the process of thriving in adversity to occur. The green of the woman’s dress is a stark contrast to the desert and symbolized for this researcher the growth she had gone through over the years.

Figure 19. Thrive.
“One of the largest factors in my healing has been the technology that allows me much more freedom and consistency than shots or finger pricks. I also have gained a sense of community through online groups where there are others with T1D who understand what I have to live with. It is also empowering to be able to lend advice or support to other T1Ds through these online communities. This has helped me to find my voice in my disease and has led me to advocate for myself and others much more than I have in the past.”

A third reoccurring use of image was created within the first stage of pre-diagnosis and the last stage of strength. The use of hexagons as symbolic of honeycomb (see Figures 20 and 21) represented to this researcher the strength and power of community. The honeycomb shape was found to be symbolic of this researcher’s familial support through difficult times and how the bonds of family are strong though they may be great distances apart. Learning coping styles early on through familial closeness was important for this researcher and was also tied to elements of nature such as familial bonding over beekeeping.
Survey participants shared an overwhelming number of references to technology as a coping mechanism in the form of insulin pumps and continuous glucose monitors. Other coping strategies mentioned included diet and exercise, support from friends, family, and medical professionals, and support groups. The survey responses indicated how important positive support systems were to the success of disease management and how advents in technology have improved emotional and physical areas of functioning.

Participant responses also showed how support, effective control over management, and emotional well-being were closely intertwined. Other aspects that were reoccurring within the survey results were how some T1Ds used looking at the bigger picture as a method of coping. This was also related to the use of multiple technological devices, possibly indicating the removal of possible management stress, making daily life easier and providing individuals more time to spend on other areas of life rather than their disease.

“I exercise daily, eat a clean diet, I wear a cgm, and I have a diabetic alert dog.”

“I use an insulin pump, cgm, a daily injection for insulin resistance and emotional self-care from family.”

“I use support groups and lean on friends and family.”

“I use a pump and cgm and volunteer for youth programs, which provides me with a lot of support by feeling that I’m part of a community that supports T1D.”

**Loneliness.** Through the visual narrative, loneliness was found to be negatively affected by the stages of diagnosis, denial, and struggle, and was positively affected by the stage of acceptance. Through artmaking, the researcher shared how being diagnosed with a disease that no one else in her family had been diagnosed with made her feel alone and isolated with her family. While support from her family existed in the form of moral, financial, and emotional
support, the feeling of no one within her support system truly understanding the pain her body was experiencing interfered with her coping on a daily basis.

The physical effects the researcher felt from taking shots, checking blood sugars, and how her body ached are illustrated in Figure 22. The jagged rips represent how her skin would rip and sometimes tear from callous build up caused by continual injections and also represents the wounds that would last for many days to weeks due to the decreased healing ability her body now had.

![Figure 22. Ripped.](image)

A diagnosis of T1D subsequently brought the researcher further into the medical community where she encountered many nurses and occasional doctors who misunderstood the specific differences between T1D and Type 2 Diabetes. This caused the researcher to feel isolated within the healthcare system and also made her feel as though she constantly had to defend and advocate for her own health with her doctors. The loneliness that was felt from being isolated within different settings was eventually replaced by understanding, respect, and peer support from online communities consisting of fellow T1Ds. This feeling of peer support and community was explored and illustrated during the stage of acceptance (see Figure 23) and
shows how the researcher came to know her place within the environment of the T1D community.

![Figure 23. Knowing My Place.](image)

Within the survey results, loneliness was the largest risk factor found, with depression being the largest negative influencer that was also connected to many other areas involving the risk factors. This may be indicative of the high risk T1Ds may be at for depression, as many aspects were connected outside of loneliness such as disease as label, lack of adequate control, weight gain, and being diagnosed as a core belief. Other factors that were found to have negatively affected loneliness within the responses included high cost of insulin, supplies, and equipment, poor healthcare options, being micromanaged by others, constant disease management, being overwhelmed, and wanting to give up.

**Acceptance and Disease as a Label**

**Positive Affect.** The visual narrative of the stages of strength and acceptance were found to be the two most important factors on positive affect while the stage of diagnosis negatively impacted this protective factor. This negative influence from the stage of diagnosis was shown
through the journaling process to have the greatest and longest lasting impact upon positive affect. The artwork throughout this stage showed a stark contrast to the normal inclusion of colors found in the other stages that were explored.

The image of the hummingbird in Figure 22, trapped in a net within a dark and foreboding landscape, was found to be symbolic of this researcher’s perseverance and how, for a time, she felt ensnared and unable to move forward. The gloom of the environment was symbolic of how the researcher’s life became dark and confused for a time as she had to learn how to cope with a new diagnosis.

![Figure 22. Stuck.](image)

“I felt stuck, it didn’t occur to me that my life had just changed so drastically. The initial shock of diagnosis was replaced by confusion and the disorientation of the new medical world I found myself in. It seemed impossible to move forward and my world seemed to lose its color for a long time. I lost track of time there and didn’t really care how many months or years passed me along.”

The appearance of a more positive animal representation appeared in the last stage of strength (Figure 23) and was symbolic of this researcher’s growth and her increase in positive
affect. The dragonfly in Figure 23 is representative of transformation and how this researcher has gone through each stage of grief and has been positively changed through the process. The lotus flower on which the dragonfly finds solace was symbolic of the power of transformation through the muck of life that was filled with medical necessities that were overwhelming. This image was a direct contrast to the entrapment of the hummingbird in Figure 22, where there was no forward growth and no hope of transformation.

![Figure 23. Transformation.](image)

“Being transformed took a long time but I have learned to grow through what makes me weak. I like the term posttraumatic growth as I am no longer sitting in my misery of being chronically ill, I am actively trying to grow beyond the things that bind me.”

The stage of diagnosis also shared the physical act of touching the journal paper with paint as previously seen in Figures 16 and 17 from the stage of acceptance. The artwork illuminated how it was through acceptance and strength that this researcher was able to overcome the negative influences of diagnosis and that subsequently, the artmaking itself can be used as a coping mechanism to increase positive affect through the act of creating. The handprints in Figures 16 and 17 showed a contrast in how this researcher went from hopelessness to accepting the things that are out of her direct control to change.
“As someone who will never not need medical care and medicine 24/7 to live, having a healthy, safe, and expressive outlet has been my biggest source of self-care. Before art therapy, I used other ways for self-care, but artmaking takes that care to a deeper level as it allows what is hidden from me to be revealed so that I may acknowledge it and process.”

The survey results showed that positive affect was closely linked to acceptance and an unexpected finding was the commonly held view of disease as part of identity in a positive way. Participants shared similar stories of how they have overcome T1D obstacles, how they are grateful, and how some have acknowledged their disease and gained acceptance. The large number of participants who felt acceptance and strength from their disease paralleled this researcher’s own discoveries about her journey with T1D.

“It is part of my being now, I’ve been T1 longer than I haven’t and proper planning doesn’t hold me back from what I want to do.”

“I am strong, resilient, knowledgeable, yet fragile and concerned…I am much more open about T1D than I was in the past.”

“T1D is just a part of who I am, I am grateful to God. I’ve met some great people and I feel I am stronger as a result of my diagnosis.”

“Every morning I wake up I feel positive to still be alive.”

“I have always been positive, and diabetes has never limited my life.”

“I live with T1D, I cannot change my diagnosis so, I refuse to let it control my life.”

**Stigma.** Lack of peer support and understanding made moving forward with the grief process harder and the many pieces associated with daily life made healthy functioning almost impossible in a peer-setting such as high school. The stages of acceptance and strength
positively impacted the negative effects of the stage of stigma, and included vibrant use of color and as could be seen in the colorful koi of Figure 24 and the tall standing stone in Figure 25.

Figure 24. Balance.

The koi are circling into a ying-yang shape, which represented finding balance and harmony within society as someone who is chronically ill. The use of warm and cool colors represented the active and passive states of growth and rest that were experienced through the different stages of the grief process. The combination of the koi along with the active and passive colors used represented how the researcher was able to overcome the feelings of blame towards others for their stigmas and to instead help to educate others about T1D to prevent stigmas from spreading.

“After many years of learning and growing, I found a sense of comfort with who I was and that it’s not my fault and it’s not anyone’s fault for misunderstanding. I enjoy wearing my medical devices where others can see them, and I also enjoy people asking questions about what they are. It’s natural for others to be curious and if I have the opportunity to help spread positive views about T1D, I gladly will. I also have accepted that some days will be better than others and that this journey is not linear, but instead is
a continuum of growth stages. I find myself enjoying the positives much more often than I ever have the past few years and I honestly believe that is due to accepting my T1D and being ok with myself for that decision.”

Within the last stage of strength, the tall standing stone (Figure 25) was symbolic of finding a source of strength and steadfastness when being confronted with adversity. The long-standing nature of the stone was also representative of withstanding the effects of time as different age factors bring new and sometimes unexpected complications to the management of T1D. The use of blue in the background was symbolic of the peace and inner strength gained through standing for so long in the face of medical adversity.

Figure 25. Source.

The survey results showed similar findings of what stigmas may negatively affect individuals, such as disease as a label, misconceptions about what T1D is and is not, being judged for having to use injections or eating certain foods, and having to count carbohydrate amounts to determine insulin dosage. Some participants shared how they would get glances or stares from others in public while they would be taking a shot or sticking their fingers to check
their blood sugar. Others shared how they welcomed the stares and questions about their disease, as they sought to educate others about what T1D actually involves.
CHAPTER V

Discussion

This study sought to illuminate the relationships between resiliency and living with a chronic illness, such as T1D. Through use of a visual narrative process, this study also aimed to show how art therapy can increase the resiliency of a T1D individual. Increasing one’s resilience is important when living with a chronic illness, such as T1D, as higher levels of resilience help to offset negative aspects of prolonged stress situations (Jaser & White, 2011). An analysis of both the participant responses and the visual narrative data showed an overarching theme of thriving instead of merely surviving to be common among many T1D individuals. Additionally, themes and subthemes of resiliency that influenced the ability to thrive included (a) acceptance and need for more control (positive subtheme of self-efficacy and negative subtheme of shame), (b) technology and depression (positive subtheme of coping strategies and negative subtheme of loneliness), and (c) acceptance and disease as a label (positive subtheme of positive affect and negative subtheme of stigma).

Thriving Instead of Surviving

Thriving while living with a chronic illness can be defined as above-average functioning (Hamby et al., 2018) and is attributed to the amount of success one has at managing their disease while experiencing life-threatening or chronic conditions (Sharkey et al., 2018). This was seen in participant responses where individuals shared how despite living with T1D, they still found ways to stay positive, to keep going, and to stay strong in the face of adverse conditions. Elements of thriving within the survey responses included the success participants had with disease control, the use of technology to improve quality of life, and the ability to stay positive. The heuristic data also showed a strong connection to level of acceptance with being able to
thrive. This was expressed visually using elements of nature, color as metaphor, and shape and form representing emotional aspects.

Acceptance and Need for More Control

**Self-Efficacy.** Self-efficacy helps to determine how well an individual will be able to utilize coping behaviors and how long that effort will be sustained when experiencing stress (Pooley & Cohen, 2010). Aspects that influence self-efficacy may include how an individual learns to view themselves as well as how they may view relationships with others (Reed-Knight et al., 2014). T1D supports can be identified as those who lend emotional, social, and medical assistance in the management of T1D and may consist of family, friends, peers, doctors, and the T1D community (Casier et al., 2013). Participant responses showed how important these support systems have been to their health as well as the importance of relating to other T1Ds through community event and social media platforms. Although some studies suggested that friend support may be counterintuitive by increasing the relation between stress and glycemic control, close friendships have been shown to be very important sources of social support (Berlin et al., 2014).

Interactions with natural supports, such as parents and peers, may be important to promoting self-efficacy and may also help to reduce feelings of vulnerability, futility, and depression (Allsop et al., 2013). Self-efficacy is important to the effectiveness of an individual’s coping behavior and may determine how successful the individual is at executing the duration of effort towards that particular behavior (Oleś, 2015). Aspects that have been shown to increase levels of self-efficacy include positive self-esteem (Oleś, 2015), social competence (Jaser & White, 2011), and disease autonomy (Reed-Knight et al., 2014). Participant and heuristic data
showed that self-efficacy was directly influenced by confidence in disease management, socializing with in peer groups, and the amount of control gained through the use of technology.

Belonging to a disease-specific community such as social media platforms, through summer camps, or through local and national events can be beneficial in many ways and was identified through the online survey as an important aspect of self-efficacy. Many participants shared how belonging to social media sites specific to T1D helped them to relate to other T1Ds, feel supported, and increased confidence in disease management. Research has shown that interacting with others through therapeutic recreation or taking part in camps and events can greatly reduce instances of depression while increasing social self-efficacy (Allsop et al., 2013). Interacting in activities with others who experience similar circumstance has also shown to increase levels of self-worth and social acceptance and may help to improve diabetes management (Markowitz & Laffel, 2012). The artwork from the weeks of Acceptance and Strength showed that achieving a balance in management, a better understanding T1D, and connecting with other T1Ds positively affected self-efficacy.

Parental style may play a large role with the outcome of health during a T1D’s transition into disease autonomy where the responsibility shifts from a caregiver to the T1D individual (Reed-Knight et al., 2014). Navigating how to be supportive while maintaining control can be delicate, and parents may inadvertently cause issues by giving responsibility too early in the T1D individual’s life, giving responsibility too late, failing to increase support if the individual’s health should begin to decline, or failing to provide an adequate learning environment where management training takes place. A high desire for successful control was an important aspect of self-efficacy and online participants related how adequate record keeping, technology, and social support positively affected this area. Conversely, participants identified high medical
costs and inadequate healthcare as barriers to successful control. In one study, for those patients who were transitioning towards autonomy, endocrinologists who did not have direct access to mental health professionals reported an increase in barriers, such as depression, in diabetes management for their patients (Garvey et al., 2016). Other studies have shown that half of diabetes specialists and physicians have felt unable to provide psychosocial support for their patients with one-third not having ready access to either emotional or psychiatric assistance.

Another limitation to successful transition to autonomy is the lack of support between pediatric care and adult care, which may leave young adult’s unprepared and at a disadvantage when entering the adult health care culture (Garvey et al., 2016). This was found to be true for many survey participants as well as within through heuristic process. Many participants shared how they felt as though medical professionals did not listen to them or felt that they were viewed in a negative light for having T1D. For this researcher, it was found through the stage of struggle, that she encountered many nurses and doctors over the years who either did not understand the difference between T1D and Type 2 Diabetes, or had medical professionals make assumptions about her health based on her diagnosis.

Shame. Shame has been shown to be a negative aspect of the emotional struggles that relate to the effects of living with a chronic illness (Clarke et al., 2018). The online survey results made connections with a lack of adequate control, medical equipment, and weight gain as factors increasing one’s shame. An unexpected relationship that arose from the results was how some participants associated their core belief with a diagnosis of T1D. This was tied to comments about personal appearance and acceptance by peers and levels of capability in successfully completing goals.
Some studies have shown how perfectionistic tendencies may exacerbate successful control over one’s disease, which may cause the individual to spiral into self-defeating cycles (Powers et al., 2012). This was seen within some survey responses where participants mentioned a need to achieve “perfect” blood sugar numbers or “perfect” control. Within the artwork, shame was influenced by the stages of diagnosis and denial. Through the grief process, the researcher came to terms with being diagnosed as a T1D, and that it was not her fault that she had not been cured by alternative paths to modern medicine and that her diagnosis was not something she had control over.

**Technology and Depression**

**Coping Strategies.** Coping strategies are an important aspect of dealing with stress related to a chronic illness (Jaser & White, 2011). Strategies include positive self-care, such as daily care (Gillani et al., 2018), identifying supports (Kichler & Kauger, 2015), and effective problem solving (Jaser & White, 2011). Consistent with Gillani et al., (2018), participants from the survey, as well as this researcher, valued self-care as a coping strategy. Self-care relates to the continual management of one’s illness and the utilization of treatments that were available and was one of the most important factors for achieving optimal glycemic levels. Positive self-care was important to long term health and can be viewed as a psychosocial strength when responding to a chronic illness, as well as a crucial strategy in taking responsibility for one’s illness (Pelicand et al., 2015). The online survey showed that the most common factor to self-care strategies within the T1D community, as well as for this researcher, was the use of technology for disease management. Technology encompasses insulin pumps, social media platforms, and continuous glucose monitors, which was the most commonly mentioned outlet of technological self-care. Innovative medical technologies can allow those with chronic illnesses
to live higher qualities of life by making disease management less stressful, more accurate, and easier to maintain consistency (Chen et al., 2017). Survey responses showed a large number of individuals attribute advents in technology to positive health outcomes, as their blood sugar information is readily available without lancet use and insulin pumps allow users to fine tune their insulin needs.

The transition from that of medical and familial support to self-care autonomy has been shown to be important for good health (Pelicand et al., 2015). Developing positive self-care habits greatly increased the likelihood of better outcomes as T1D’s aged and success was related to disease knowledge and adjustment style (Reed-Knight et al., 2014). Some survey participants shared how it was the duration of having T1D that has led them to become more knowledgeable about their disease and to develop personal management styles. The success of achieving self-care autonomy is also related to the type and frequency of natural supports T1D individuals have, such as parental monitoring, social supports (e.g., friends, media platforms), and access to knowledgeable mental health care providers (Kichler & Kaugars, 2015; Reed-Knight et al., 2014). Within the online survey, there were multiple references to positive healthcare provider experience and seeking out mental health care as part of successful disease control.

According to Moon (2016), artmaking can be an effective tool when used as a positive coping strategy, as it reduces anxiety, acts as a grounding mechanism, and promotes mindfulness. Directive-based activities can be used to target areas of specific need such as processing visually how one is currently feeling about their chronic illness, illness identity, or tapping into unrealized potentials for coping strategies (Arnett & Malchiodi, 2013). Through visual journaling, this researcher discovered personal methods of coping such as identifying
important self-care outlets and discovering deeper emotional meaning through the creative expression of the artwork.

The act of creating the visual journal entries was found to help the researcher to learn new insights about her illness narrative, such as learning to thrive with her disease. Art therapy engages the brain in multiple areas of functioning to access sensory and affective process, and the same area of the brain that activates with problem solving is also engaged through movements while making art (Lusebrink, 2010). Additionally, the physical manipulation of materials while art making during times of stress helps to alleviate motor symptoms such as restlessness (Abbot et al., 2013). Heuristic results showed how the physical act of creating the illness narrative within the visual narrative process was found to cathartic and relaxing for this researcher.

Problem solving techniques beneficial to resilience of a chronic illness include visual narrative (Malchiodi, 2013), planning (Reed-Knight et al, 2014), and emotional expression (Jaser & White, 2011). Additionally, artmaking as a coping strategy can offer an individual a measure of control and mastery that can provide them with feelings of safety and pleasure (Hass-Cohen, 2016). This visual narrative process provided a method for self-exploration that was emotionally rich and more meaningful than simply talking about T1D had offered this researcher in the past. Additionally, organization of the artwork within the framework of a thematic chart provided this researcher with an intimate visual map of her own T1D story and how the stages of grief related to each other that she had not visualized in the past.

**Loneliness.** Loneliness is a depressive symptom of psychological distress and was associated with decreased health outcomes (Zautra et al., 2010). The online survey results showed how each risk factor was connected to depression, with loneliness having the strongest
connection. Feelings of being overwhelmed, constant management, inadequate healthcare, being micromanaged by others, and the high costs of insulin and supplies were all found to contribute to aspects of loneliness. Through the heuristic process, the stages of struggle, denial, and diagnosis were shown to contribute to this researcher’s personal aspects of loneliness and of wanting to escape from her complicated medical routine. Suicide ideation was found to be strongly connected to depression, with more than half of participants admitting they had thoughts of ending their life at some point after diagnosis. Studies have shown that higher rates of suicidal ideation and subsequent completion by T1Ds is connected to a poorer quality of life due to inadequate control over management (Guerrero-Ramírez & Cumba-Avilés, 2018).

The lack of personalization from healthcare providers may cause some individuals to feel isolated and guilty for wanting to take control over their T1D. Some T1D individuals may feel isolated from healthcare providers due to what they would do for self-care compared to what they are expected to do from the perspective of their doctor (Storni, 2013). Some survey participants shared how they feel judged and subsequently isolated with their healthcare providers due to their personal choices about disease management.

Additionally, the daily maintenance and persistence of issues that stem from T1D, may lead individuals to develop their own level of expertise in their self-care, such as self-managing insulin intake and having less than adequate blood sugar control (Guerrero-Ramírez & Cumba-Avilés, 2018). Adherence to a strict insulin regime may not be feasible for some individuals, as daily activities and choices may result in insulin needs that do not fit within the solution provided by an expert (Storni, 2013). Some survey participants shared how they modify their own insulin ratios to fit their needs without consulting their doctor or some may check their blood sugars less or more than they are prescribed.
Acceptance and Disease as a Label

Positive Affect. Positive coping process have been shown to lead to positive affect, which may serve as a buffer against chronic stress (Strand, 2011). Although many studies have shown coping strategies and self-efficacy as important protective factors of resilience (Kichler & Kaugars, 2015; Rohan et al., 2015), there are fewer studies indicating the importance of positive affect (Lord et al., 2015). Positive emotions can trigger resources that aid in coping with chronic conditions on emotional, cognitive, and behavioral levels. Evidence suggests that positive affect broadens an individual’s attentional focus and behavioral skills leading to an increase in social, intellectual, and physical resources (Moskowitz, 2010). The responses from survey participants and within the visual narrative process showed an increase in positive affect through the building of social support systems through T1D community outlets. Within the survey responses, belonging to a T1D specific support network through social media was a valuable resource for increasing positive emotional states. Broadening of positive affect enables an individual to see beyond current stress and gives them the ability to possibly invent creative approaches to coping with their illness, such as benefit finding. Benefit finding may be associated with lower negative affect symptoms, higher perceived coping effectiveness, and better adherence (Tran et al., 2011).

Important emotional states identified within the online survey that were integral to daily well-being included feelings of hope, gratitude, and acceptance. Additionally, the survey results also showed that participants who seemed to accept their disease as part of their current identity did not identify as “sick” or “diseased,” but as “strong” and like a “warrior.” This idea of becoming stronger through the disease process was common to both the online survey and the heuristic process. The visual narrative process showed that acceptance was the most influential
state on all areas related to resilience, and was also important to the growth of this researcher’s identity. Positive affect has been shown to be influenced by higher degrees of acceptance of one’s T1D, level of motivation, and benefit finding (Lord et al., 2015), and daily well-being may be found to correspond to higher levels of acceptance in relation to positive mood outcome (Casier et al., 2013). Additionally, increased positive affect has also been associated with enhanced motivation which leads to improved glycemic control and lower blood glucose levels (Lord et al., 2015).

**Stigma.** Stigmas have been shown to have negative effects on adherence and routine, as individuals may try to avoid societal biases that involve knowledge surrounding a T1D diagnosis (Storni, 2013). Within the online community, survey responses included avoidant behavior such as not taking insulin in a public setting due to feeling judged for the use of a syringe, not checking blood sugar using a lancet device, or trying to hide the use of an insulin pump. Some participants also shared that they may not eat certain foods in a public setting that they want due to social stigma of what is and is not acceptable for a T1D to eat. Avoidant behavior was also true for this researcher, during the stages of denial and struggle such as feeling judged by peers for daily management practices during school hours and receiving personal comments from strangers in public about not looking chronically ill. The presence of stigmas such as these can lead to feelings of guilt, shame, and isolation, all of which have negative outcomes on quality of life for T1Ds (Falvo & Holland, 2018).

Adherence to proper T1D management in social situations may be difficult due to fear of negative evaluations by others, but effective parental and peer support can provide a sense of security in otherwise stressful and stigmatizing situations, as well as help to foster self-efficacy (Coholic, 2011). This was found to be true in the online survey results, as participants shared
common stigmas such as: disease as a label, misconceptions about what T1D is and is not, being judged for the use of a syringe or for eating certain foods, and for having to count the carbohydrates in food to know how much insulin to take. Participants also shared how support from friends and family can positively influence the negative aspects of stigmas that they encounter.

**Limitations**

The limitations of this study included the small size of the T1D community, which possibly contributed to the smaller number of participants from which to gather information. This researcher chose to seek interviews from an adult T1D population rather than an adolescent population due to accessibility and development stage. The adult T1D population was easier to gain access to and, due to possibly having lived with T1D longer, were more likely to have a larger knowledge base. The inclusion of the researcher’s personal experiences may also have served as a limitation to this study. However, as heuristic inquiry was the main method of investigation, the researcher sought to increase trustworthiness of the results by coding and reevaluating the visual narrative data three different times to help challenge initial impressions and assumptions.

**Recommendations and Future Studies**

Populations that would benefit from this study would be those struggling with any chronic illness or chronic conditions, those who are terminally ill, and anyone seeking to discover their own resilience through the exploration their personal narrative through visual expression. The shared themes that exist from chronic illnesses, conditions, and those that are terminally ill may include resilience, self-care, supports, and making meaning from life. Although some areas may be T1D specific, such as requiring insulin or checking blood glucose,
other areas that connect those who suffer from a chronic or terminally ill condition may include
meaning making, acceptance, and identifying supports (Casier et al., 2013). Additionally,
learning to thrive despite adversity may be an important area of focus for many individuals who
are directly or indirectly affected by the stages of grief. Future studies could include additional
explorations into other areas of the chronic illness narrative such as healthy identity versus
illness identity, illness dream journaling, or personality type and resilience levels.

Other possible studies include researching the effects of art making on blood glucose
levels and/or cortisol levels pre and post art making to determine the long-term effects on
glucose levels. A program that utilizes mixed methods of Focusing, narrative therapy, and art
therapy could be very beneficial for individuals newly diagnosed or for those who have had their
illness for longer periods of time. This program could be conducted either inside or outside of
hospital settings and could be tailored for individual therapy or group therapy. A focusing
support group could meet online via secure connections that would allow those in remote areas
to engage in group work and to offer a source of peer support for specific types of illnesses as
well as encouragement for daily issues.

Conclusion

The strengths of this study lie within the connections of the themes of resilience gathered
from the T1D experience and how art therapy can be utilized to enhance and bring out these
themes for processing through visual narrative. Art making through visual narrative allows a
unique opportunity to enter into a state of awareness where one may live authentically and
responsibly (Moon, 2016). The creation of visual representations that one may engage in
dialogue with is important not only to this study but is also an integral aspect of the art therapy
process. This study seeks to advance the field of art therapy by showing how the exploration of
one’s chronic illness through the visual narrative process can foster resiliency by cultivating self-efficacy, providing a positive coping mechanism, and increasing positive affect.

The adult T1D population is more easily accessible through social media outlets than the adolescent or pre-adolescent community and some of the themes searched for may not exist yet due to development stage of younger T1Ds. The positive themes of resilience gained through the T1D experience are important in preventing or alleviating any deficits that may negatively influence illness management and quality of life. This study is also important in showing how chronic illnesses share common themes of resilience and how retelling one’s story through visual narrative can increase and support the protective factors of resilience to help foster a positive illness-identity.
References


Akre, C., & Suris, J. (2014). From controlling to letting go: What are the psychosocial needs


Bernard, P., Romain, A., Caudroit, J., Chevance, G., Carayol, M., Gourlan, M., & ... Moullec, G.

Beyond Type 1. (n. d.) *Type one and other autoimmune disease.* Retrieved from https://beyondtype1.org/type-1-diabetes-with-other-autoimmune-diseases/


Insulin access and affordability working group: Conclusions and recommendations. *Diabetes Care, 41*, 1299–1311. doi:10.2337/dc18-0019


function abnormalities in patients with juvenile onset type 1 diabetes. *Indian Journal Of Endocrinology & Metabolism, 17*(S1), S380. Retrieved from http://www.ijem.in


Falvo, D. & Holland, B. E. (2018). *Medical and psychosocial aspects of chronic illness and disability*. Burlington, MA: Jones and Bartlett Learning, LLC.

Farsani, S. F., Souverein, P. C., van der Vorst, M. J., Mantel-Teeuwisse, A. K., Knibbe,


Hinz, L. D. (2019). *Beyond self-care for helping professionals: The expressive therapies*


Juvenile Diabetes Research Foundation (JDRF). (nd.) *Insulin types and uses.* Retrieved from http://www.jdrf.org/about/what-is-t1d/insulin/


Łuczyński, W., Łazarczyk, I., Szlacheikowska, I., Kiernożek, Ż., Kaczmarek, A., Szylaj, O., …


INCREASING RESILIENCY THROUGH VISUAL NARRATIVE


being and functional outcomes in youth with type 1 diabetes 12 years after disease onset. *Diabetes Care*, 33, 1430-1437. doi:10.2337/dc09-2232


https://pdfs.semanticscholar.org/ce7e/75a6fe215592636d531abb5dfe3bd32dc12d.pdf

doi:10.1080/14779757.2010.9688509


therapy in individual and group counseling. *Journal of Creativity in Mental Health, 9*, 99–110. doi:10.1080/15401383.2013.870947


Seewoodhary, J., Dacruz, T., Lloyd, E., & Evans, P. J. (2014). The role of diabetic alert dogs in
the management of impaired hypoglycemia awareness. *Practical Diabetes, 31*(8), 323–325. doi:10.1002/pdi.1895


APPENDICES

Appendix A

Greater Than the Highs or Lows: SurveyMonkey.com Screen Shots

1. How did you feel at the time emotionally about being diagnosed?

2. How do you currently feel about being a T1D?

3. What do you do for self-care to help manage T1D?

4. How do you stay positive?

5. Have you ever felt like giving up because of your T1D?
   - Yes
   - No

6. Do you feel supported by friends or family with your T1D?
   - Yes
   - No
   - Sometimes
Do you ever feel uncomfortable in public because of your TID?

☐ Yes
☐ No
☐ Sometimes
☐ If “Yes”, what makes you feel uncomfortable?

Do you belong to any TID communities either online, in person, or both?

☐ Social Media
☐ Local Group or Community
☐ Both
☐ Neither

Do you feel supported or unsupported for your TID by your doctor?

☐ Supported
☐ Unsupported
☐ Neither
☐ Additional comments about feelings on medical care

Additional thoughts, opinions, or insights about your TID:

Would you like to be contacted in the future for further interviewing? If you answer “yes”, you will be directed to a separate consent form.

☐ Yes
☐ No
Appendix B

Optional Interview: SurveyMonkey.com Screen Shots

Greater Than the Highs and Lows

Contact Information

Please provide how you would like to be contacted. If you would like to communicate through email and by phone, you may select both of those options.

* Please provide your name

Name

I would like to be interviewed by email

☐ Yes
☐ No

Email Address

I would like to be interviewed by phone

☐ Yes
☐ No

Phone number with area code

Appendix C

Protective Factors for Resilience Scale

**PFRS**

Age _______(years of age) Gender (please circle) Female Male

*Instructions: To what extent do you agree or disagree with these statements (please circle your answer)*

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I can deal with whatever challenges come my way.</td>
<td>1 2 3</td>
</tr>
<tr>
<td>2.</td>
<td>I achieve what I set out to do.</td>
<td>1 2 3</td>
</tr>
<tr>
<td>3.</td>
<td>I feel that that I belong with my friends.</td>
<td>1 2 3</td>
</tr>
<tr>
<td>4.</td>
<td>My family are a source of strength for me.</td>
<td>1 2 3</td>
</tr>
<tr>
<td>5.</td>
<td>I believe in myself.</td>
<td>1 2 3</td>
</tr>
<tr>
<td>6.</td>
<td>I follow through on plans to achieve my goals.</td>
<td>1 2 3</td>
</tr>
<tr>
<td>7.</td>
<td>My friends treat me fairly.</td>
<td>1 2 3</td>
</tr>
<tr>
<td>8.</td>
<td>I feel accepted by my family.</td>
<td>1 2 3</td>
</tr>
<tr>
<td>9.</td>
<td>I can look after myself.</td>
<td>1 2 3</td>
</tr>
<tr>
<td>10.</td>
<td>My friends look after me.</td>
<td>1 2 3</td>
</tr>
<tr>
<td>11.</td>
<td>I know that my family would help me if I needed help.</td>
<td>1 2 3</td>
</tr>
<tr>
<td>12.</td>
<td>I feel that I can influence what happens to me.</td>
<td>1 2 3</td>
</tr>
<tr>
<td>13.</td>
<td>I can rely on myself to be ready for what I need to do each day.</td>
<td>1 2 3</td>
</tr>
<tr>
<td>14.</td>
<td>My friends are a great source of support.</td>
<td>1 2 3</td>
</tr>
<tr>
<td>15.</td>
<td>I feel comfortable around my family.</td>
<td>1 2 3</td>
</tr>
<tr>
<td>16.</td>
<td>When I think about my future, I feel positive.</td>
<td>1 2 3</td>
</tr>
<tr>
<td>17.</td>
<td>I really try hard in the things that I do.</td>
<td>1 2 3</td>
</tr>
<tr>
<td>18.</td>
<td>I can rely on my friends for help if I needed it.</td>
<td>1 2 3</td>
</tr>
<tr>
<td>19.</td>
<td>I feel safe within my family.</td>
<td>1 2 3</td>
</tr>
<tr>
<td>20.</td>
<td>I know what I want to do with my life.</td>
<td>1 2 3</td>
</tr>
</tbody>
</table>

*Per Harms, Pooley, and Cohen (2017), the PFRS is an open access article with permission to share and adapt this material so long as appropriate credit is given to the authors, a link is provided, and indication of changes if any were made.*
Appendix D

Visual Narrative Journal: Handmade Coptic Sketchbook

<table>
<thead>
<tr>
<th>![Image 1]</th>
<th>![Image 2]</th>
<th>![Image 3]</th>
</tr>
</thead>
</table>
Appendix E

Week 1: Pre-Diagnosis

- **Safe Space**
- **Past Pieces**
- **Possibilities**
- **Oblivious**
Appendix F

Week 2: Diagnosis

<table>
<thead>
<tr>
<th>Faded Memories</th>
<th>Ripped</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Trauma Touch</th>
<th>Stuck</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix G

Week 3: Denial

Eye Wide Shut

Anywhere Else.

Now Me

Encased
Appendix H

Week 4: Struggle

Surviving Not Thriving
Cascade

Pieces
Tedious
Appendix I

Week 5: Acceptance

<table>
<thead>
<tr>
<th>Serenity</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.jpg" alt="Serenity Image" /></td>
<td></td>
</tr>
<tr>
<td><img src="image2.jpg" alt="Growth Image" /></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowing My Place</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3.jpg" alt="Knowing My Place Image" /></td>
<td></td>
</tr>
<tr>
<td><img src="image4.jpg" alt="Balance Image" /></td>
<td></td>
</tr>
</tbody>
</table>
Appendix J

Week 6: Strength

Connected

Thrive

Source

Transformation
Appendix K

Pre-PFRS and Initiative 10

Pre-PFRS

Pre-Initiative #10 Pain Image

Pre-Initiative #10 Healing Image

Pre-Initiative #10 Integration Image
Appendix L

Initiative 10: Images of Pain and Healing

Materials

Paint (watercolor, acrylic, or oil)

Brushes or oil pastels

3 pieces of watercolor paper of equal size

Directive

1. Relax into a comfortable position and become aware of your breathing, paying attention
to taking breath in and letting it out.

2. Imagine a flow of soft light traveling inside your body, from your head to your toes.
   Slowly be aware of each are examined.

3. Allow whatever thoughts and feelings you may have to simply exist.

4. Imagine your pain, your sense of being overwhelmed as a color and a form.

5. Select your colors and brush size and paint or draw your image.

6. Set this painting or drawing aside.

7. Imagine the colors and form of healing energy.

8. Paint or draw those colors and forms on a second piece of paper.


10. Contemplate the two images. Do not judge, just observe. Be with them in a mindful
    manner, exploring all nuances you have created.

11. Close your eyes and breathe into your body, recognizing any tension, pain, fear, sadness
    you may experience. Let it go.
12. Pick up a third piece of paper and paint your healing surrounding or breaking apart or integrating with your pain. Paint this image.

13. Lay the three images side by side. What do you observe?
Appendix M

FOAT Exercise Directions

Weekly Themes:

Week 1: Pre-Diagnosis
Week 2: Diagnosis
Week 3: Denial
Week 4: Struggle
Week 5: Acceptance
Week 6: Strength

Directions:

1. Clearing a Space: Focus on the theme. Inwardly feel what is in the way of feeling “All Fine.”

2. Choosing an issue and felt sense: Choose something from issues set aside during Clearing a Space

3. Handle/Symbol: A word, phrase, gesture, or sound

4. Resonating: Check handle against felt sense to see if it is right. Sense the right art materials to match the felt sense; express the handle/symbol in art.

5. Asking:
   a. What makes it so ____?
   b. What’s the main thing or crux about it?
   c. What’s the worst of it?
   d. What would it be like resolved? Imagine for a moment that this issue were all resolved. Sense inside your body what it would look and feel like if this were
all resolved. See if there is an image that matches or acts like a handle for the inner felt sense of this issue all resolved.

e. What’s in the way?

f. What is needed?

g. What is a small step in the right direction?

h. Dialogue with the art with one of the following:

   i. What do you have to say to me? What do you need?

   ii. Dialogue with different parts

   iii. Gestalt the art

   iv. Active imagination

   v. Felt sense of art into intermodal transfer (poem, movement or dance, or music)

6. Receiving: Receive and welcome what comes from the felt sense and the artwork.
Appendix N

Post-PFRS and Initiative 10

Post-PFRS

Post-Initiative #10 Pain Image

Post-Initiative #10 Healing Image

Post-Initiative #10 Integration Image