Benefits of Belly Dance in Childbirth Experience

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May 5, 2020

Professor Aston K. McCullough

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I am incredibly thankful to my advisers, friends and family for their support in completing my thesis. I am deeply grateful to my advisors Professor Aston K. McCullough and Professor Mary Paterno for their encouragement, wisdom, guidance, patience, and mentorship this past year. I would also like to thank Professor Paul Dennis and Cara Marie Manlandro for being instrumental in helping me orchestrating this thesis while it was in its initial phases. I cannot begin my thesis without thanking Ruth Manlandro for her dedicated support to me this past year. I am grateful to have someone so supportive of me in accomplishing my goals. Without the support of these advisors, I would not have been able to finish my thesis.

I would like to thank my belly dance teacher Melinda Pavlata and the entire UMass Amherst Belly Dance Club for introducing me to and making me fall in love with belly dance. Also, thank you to Tara Campbell for her continued mentorship and support of my doula work in the field of childbirth.

I am lucky to have friends like Saswata Mishra, Michael Zhao, Helen Chan, and Elizabeth Tripp who supported me during my thesis. I am thankful to have such positive sources of emotional support and encouragement.

Finally, I would like to thank my parents Anjali and Sanjeev, my sister Roma and my brother Jai for their love and support.
# Table of Contents

ACKNOWLEDGEMENTS ................................................................................................. 2  
ABSTRACT....................................................................................................................... 6  
INTRODUCTION ............................................................................................................. 7  
METHODS .................................................................................................................... 10  
  Phase I ....................................................................................................................... 10  
  Phase II ...................................................................................................................... 10  
  Conceptual Framework ......................................................................................... 11  
  Methods Table ....................................................................................................... 12  
  Methods Table ....................................................................................................... 13  
  Methods Table ....................................................................................................... 16  
LITERATURE REVIEW ............................................................................................ 18  
BELLY DANCE ......................................................................................................... 18  
  Three Theoretical Perspectives ............................................................................. 18  
  Belly dance in the United States of America: A brief historical overview .......... 19  
  Who Practices Belly Dance in the United States? ............................................. 22  
  The Origin of Stylistic Differences: Cultural Outgrowth .................................... 22  
  Stylistic Differences in Egyptian Style Belly Dance ......................................... 23  
  Belly Dance Movement Overview: Embodied Vocabularies in Belly Dance .... 24  
  Belly Dance Technique ......................................................................................... 24  
    Body Domains .................................................................................................... 24  
    Muscle Isolations ................................................................................................. 25  
    Head ..................................................................................................................... 25  
    Arms ..................................................................................................................... 25  
    Chest ..................................................................................................................... 26  
    Abdomen ........................................................................................................... 26  
    Pelvis .................................................................................................................... 26  
  Props in Belly Dance .............................................................................................. 27  
  Belly Dance Costuming ........................................................................................... 27  
  Belly Dance Instruction ......................................................................................... 28  
    Nonverbal Instruction Style .............................................................................. 28  
    Emphasis on Individuality .................................................................................. 28  
    The Use of Characters ....................................................................................... 28  
  Belly Dance and Feminine Empowerment ........................................................... 29
Empowerment Within. ................................................................. 29
Collective Identity. ................................................................. 30
Access to Social Entitlements ............................................... 30
CHILDBIRTH ............................................................................... 31
Table 2. Stages of Childbirth ............................................... 31
CHILDBIRTH EXPERIENCE ..................................................... 33
Physical Experience of Childbirth ........................................... 33
Oxytocin Levels. ................................................................. 34
Pain .............................................................................. 34
Low Back and Pelvic Pain. ...................................................... 35
Musculature ...................................................................... 36
Fetal Macrosomia, Shoulder Dystocia, & Prolonged Labor. .... 37
Psychological Experience of childbirth ............................... 38
Anxiety and Fear ................................................................ 38
Depression ........................................................................ 40
Post-Traumatic Stress Disorder. ........................................... 41
Postpartum Fatigue .............................................................. 41
Psychosocial Experiences of Childbirth ............................... 42
Mother-infant relationship .................................................... 43
Maternal Confidence and Transition to motherhood. ......... 43
FACTORS THAT INFLUENCE CHILDBIRTH ............................. 43
Individual Preferences for the Childbirth ............................ 43
Individual Expectations of Childbirth ................................. 45
Fearing Childbirth ............................................................... 46
Childbirth Education ............................................................ 46
History of Sexual Trauma ..................................................... 48
Relationship with Healthcare Provider ............................... 49
Medicalization of Childbirth ............................................... 50
Control ........................................................................... 51
Confidence ........................................................................ 53
Self-efficacy. ..................................................................... 55
Feeling in Tune with One’s Body ........................................... 56
Physical Factors ................................................................ 57
Prenatal Back Pain ............................................................... 57
Position During Labor .......................................................... 57
Pain Management During Childbirth ................................................................. 58
Length of Labor ............................................................................................... 59
Mode of Delivery .............................................................................................. 59
Postnatal Pelvic Floor Damage ................................................................. 60
Psychological Factors .................................................................................... 60
  Stress ........................................................................................................... 60
  Body Image .................................................................................................. 61
  Fatigue .......................................................................................................... 62
Psychosocial Factors ....................................................................................... 62
  Social Support .............................................................................................. 62
  Social Norms ................................................................................................. 64
  Nonmedical Social Support during Childbirth ........................................... 64
CONCEPTUAL FRAMEWORK ........................................................................ 66
  Figure 1. Conceptual Framework of Belly Dance and ChildBirth ............ 66
Decreased Back Pain ....................................................................................... 67
Decreased Labor Pain ..................................................................................... 68
Self-Efficacy ..................................................................................................... 68
Fear of childbirth ............................................................................................ 69
Labor Length ................................................................................................... 70
Body Image ..................................................................................................... 70
Increased Social Support ................................................................................. 71
Uterine Prolapse ............................................................................................... 72
Urinary Incontinence ........................................................................................ 73
  Table 3. Conceptual Framework Literature Review .................................. 73
DISCUSSION .................................................................................................... 77
Works Cited ..................................................................................................... 82
ABSTRACT

A woman’s’ childbirth experience has long term implications on her health, both physically and psychologically. Belly dance is a dance that is believed to have originated for the purposes of preparing the muscles for childbirth. However, this belief has no evidence supporting it within peer reviewed academic literature. Using a literature review driven approach to research, this paper presents a conceptual framework which highlights pathways through which belly dance may benefit women during pregnancy, childbirth, and the postpartum period. This paper will begin by providing a literature review on belly dance and the childbirth experience. A conceptual framework was developed from the literature reviews which was then used to develops the methods which are presented in this paper. The outcome measures included within this conceptual framework are bodily awareness, back pain, labor pain, childbirth self-efficacy, decreased fear of childbirth, labor length, social support, body image, ability to reject societal pressure regarding motherhood, improved urinary incontinence symptoms, and uterine prolapse symptoms.
INTRODUCTION

Childbirth experience, which refers to a mother’s physical and psychological experience giving birth, has a long-term effects on a woman’s mental and physical health (Larkin et al. 2009). Recent studies suggest interventions for improving childbirth experience have increased over the last five years (Magee et al. 2014; Camann 2016; Karlsdottir et al. 2018). One popular intervention for increasing the likelihood of a positive birth experience is engaging in prenatal physical activity. Research suggests that engaging in physical activity during pregnancy may be associated with a higher likelihood of positive childbirth experiences (Bungum et al. 2000; Barakat et al. 2018; Campbell and Nolan 2019). Evidence suggests that benefits women derive from prenatal physical activity include a decreased risk of complications in childbirth, an increased sense of confidence in labor, and an ability to trust one’s body during childbirth. These benefits, both physical and psychological, contribute to the increased likelihood a woman will have a positive childbirth experience (Bungum et al. 2000; Barakat et al. 2018; Campbell and Nolan 2019). A negative birth experience is likely to impact the health of the mother and the child in a detrimental manner (Simpson and Catling 2016). A 2003 study reported that nearly 60% of American women report exercising regularly during pregnancy (Ning et al. 2003). Furthermore, attending prenatal physical activity classes is common for pregnant women in the United States (Practice 2002; Cavalcante et al. 2009). Nevertheless, the implications of participating dance, a mode physical activity, during pregnancy and childbirth on childbirth experience has not been well researched.

Belly dance is a specific mode of training that has been practiced in the United States of America for over a century (De La Cruz 2019). Scholarly perspectives in the study of belly dance suggest that the dance form maintains philosophical roots in the concept of feminine empowerment.
Belly dancer Carolina Varga Dinicu, who performs with the stage name Morocco, popularized the theory that the origins of belly dance are rooted in childbirth preparation practices (Varga 2013). According to her concept, belly dance helps to prepare women for the physical experience of childbirth by stretching and strengthening the muscles implicated in childbirth. Both the accuracy and plausibility of this theory are not well researched or supported in scholarly literature. Very little documentation is available regarding the history of belly dance practice; therefore, the context in which belly dance originated remains undetermined. Nevertheless, the association of belly dance with childbirth inspired the creation of some programs that teach belly dance as a prenatal exercise, such as Dancing for Birth (Munz 2015 Oct 31). Limited research exists, however, on the physical, psychological, and psychosocial benefits of the dance form on childbirth experiences.

Despite the substantial body of evidence supporting the benefits of physical activity throughout pregnancy (Haakstad and Bø 2011; Riley and Drake 2013), the present dearth of literature on the benefits of a dance-based physical activity modes, including belly dance, during pregnancy and childbirth results in a limited understanding about the specific benefits of dance in childbirth. Therefore, the purpose of this study was to develop a conceptual framework that outlines the benefits woman derive from practicing belly dance during pregnancy, childbirth, and postpartum. Toward this aim, a critical review of the literature related to Belly Dance and birth experience in the was conducted, with a targeted focus on the physical and psychosocial benefits of belly dance as well as the important components of a positive birth experience. As such, the study points toward the benefits of belly dance on birth experiences, specifically with respect to the influence belly dance on physical, psychological, and psychosocial wellness. Ultimately, the conceptual framework aims to interlink physical, psychological, and social features of belly dance and positive birth experiences, toward revealing the merits of belly dance as a physical activity for
pregnancy, childbirth, and the postpartum period. The conceptual framework proposed herein will serve as a basis for future research on the physiological, psychological, and psychosocial impact of belly dance in pregnancy and childbirth.
METHODS

The literature review for this study was conducted in two phases. The reason for this process was a change in the author’s thesis chairperson.

Phase I

A targeted review of the literature concerned with belly dance, childbirth, and birth experience was conducted. First a large search was conducted, wherein articles on physical activity, including belly dance, and birth outcomes and birth experience were collected using the research databases Google Scholar and PubMed. Then, articles on factors that influence both positive and negative birth experiences were collected and reviewed. A total of 211 sources (see Table 1) were gathered and reviewed for relevance to literature review themes by using the iterative process, as defined below in Phase II.

Phase II

The final set of articles was reduced in volume by determining which physical activity modes most closely represented belly dance. Pelvic rocking, anaerobic exercise, and pelvic floor muscle training were determined to be the three forms of physical activity most closely resembling belly dance at the discretion of the researcher. With respect to articles on birth experience that were collected, a thematic analysis was conducted to determine prominent themes that define or influence birth experience. These were used to determine important factors that relate to birth experience. Then, articles and textbooks concerned with the physiological psychological process of childbirth were consulted to develop a comprehensive understanding of childbirth. There were very few articles discussing belly dance in peer-reviewed academic journals.
Therefore, in addition to peer review articles, it became necessary to rely on autobiographical accounts from notable belly dancers. Furthermore, current research in belly dance, which is not yet published, but has been presented at academic conferences was also referenced in the literature review on belly dance in the United States of America. Due to the few literature sources that were available regarding belly dance, most articles on belly dance and childbirth were included in the literature review.

Conceptual Framework

To develop a conceptual framework that highlighted the pathways through which belly dance may improve pregnancy, childbirth, and postpartum experience the following approach was used:

Themes from the belly dance literature review were examined in relation to themes from the childbirth literature review to determine potential connections between belly dancing during pregnancy, childbirth, and postpartum, and childbirth experience. Outcome measures supported by studies on belly dance, pelvic rocking, or pelvic muscle training were considered substantial enough to include in the conceptual framework. Outcome measures that may be associated with belly dance due to other factors, such as anaerobic exercise modalities that were not similar to belly dance (e.g., ballet or yoga) or birth experience outcome measures which lacked evidence to support its relationship to belly dance were not included in the conceptual framework.

Amongst the themes revealed within the articles, belly dance was deemed to have the potential to improve childbirth experience by decreasing stress and cortisol levels, improving oxytocin levels in childbirth, reducing the perception of pain, increasing abdominal strength, improving pelvic floor strength, improving body image, decreasing fatigue, improving depression, bodily awareness, increasing social support, reducing labor length, reducing prenatal back pain, improving childbirth self-efficacy, internal control, bodily awareness, relationship with healthcare
provider, history of sexual trauma and relationship violence, fear of childbirth, mother infant relationship, maternal confidence in transitioning to motherhood, fear in childbirth, rejecting society pressures of motherhood, improving pelvic floor health, urinary incontinence.

Table 1. A list of sources included within a literature review on belly dance and childbirth experiences

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### Anxiety and Fear in Childbirth
- Akgün et al. 2019
- Andersson et al. 2004
- Ayers 2007
- Carlsson et al. 2015
- Cooper 2017
- Dahlberg et al. 2016
- Dayan et al. 2002
- Dossett 2008
- Hauck et al. 2007
- Lowe 2000
- Olza et al. 2018
- Saisto and Halmesmäki 2003
- Zar et al. 2002

### Depression in Childbirth
- Dayan et al. 2002
- Dossett 2008
- Groër et al. 2005
- Kammerer et al. 2006
- Tomlinson 2010

### Post-Traumatic Stress Disorder and Childbirth
- Ayers et al. 2009
- Tomlinson 2010

### Postpartum Fatigue
- Groër et al. 2005
- Lai et al. 2015
- Tzeng et al. 2008

### Mother-Infant Relationship
- Bell et al. 2014
- Feldman et al. 2010

### Maternal Confidence and Transition to Motherhood
- Hildingsson et al. 2013
- Larkin et al. 2009
- Leap and Anderson 2008
- Leap and Dodwell 2010

### Methods Table

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Creedy et al. 2000
Dekel et al. 2019
Dikmen 2020
Elkheshen et al. 2016
GARDOSI et al. 1989
Green and Baston 2003
Hassan Zaky 2016b
Hodnett 2002
Hollander et al. 2017
Jonge and Teunissen 2004
Karlsdottir et al. 2018
Kempe and Vikström-Bolin 2020
Kluge et al. 2011
Leap and Dodwell 2010
Leventhal et al. 1989
Marshall and Raynor 2014
Memon and Handa 2013
Mørkved and Bø 2014
Mugyenyi et al. 2017
Oliveira et al. 2016
Pedroti et al. 2010
Perales et al. 2016
Piper et al. 1991
Souza et al. 2006
Terry et al. 2006

Physical

A.S. et al. 2012
Barcarolo et al. 2017
Battle et al. 2015
Berndt et al. 2012
Chae 2014
Cheng et al. 2015
Demecs et al. 2011
Dossett 2008
Field et al. 2013
De Leon 2006
Van Loon et al. 2001
Popp and Yen 2012
Sweitzer 2017
Tiggemann et al. 2014
Vrinceanu et al. 2019
Walker 1998

Psychological
### Social Factors

- Agostini et al. 2015
- Hodnett et al. 2013
- Homann 2017
- Junges et al. 2018
- Larkin et al. 2009
- Lunda et al. 2018
- Miller and Shriver 2012
- Mirzakhani et al. 2015
- Moe 2008
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- Rosen 2004
- Aoyama 2009
- Hawthorn 2019
- Karayanni 2009
- Kim et al. 2011
- De La Cruz 2019

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Longman 2018
Moe 2014a
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Shea 1990
Simour 2014
Stuart and Donaghue 2012
Tolman et al. 2006
LITERATURE REVIEW

BELLY DANCE

*Three Theoretical Perspectives*

Belly dance is a solo improvised dance form that is believed to have originated in the Middle East and is practiced all over the world (Moe 2011). The point in time, exact location, and context in which the dance originated is unknown due to a lack of historical documentation. Nevertheless, contemporary theories regarding the origination of belly dance influence scholarly discourse of the dance’s in spite of the lack of historical evidence to support of these concepts. Three theories on the origin of belly dance are summarized below—

One theory postulates that belly dance originated in India around 3000 B.C.E and was spread in the Middle East through the migration of the Romani gypsies (Laura 2004). The gypsy migration has resulted in the creation of other dance forms, including Flamenco (Aoyama 2009). Belly dancer Carolina Varga Dinicu, also known as Morocco, popularized another theory that belly dance formed in an effort to train the muscles for childbirth. Dinicu began dancing in 1957 when she enrolled in Flamenco classes while attending college to complete her undergraduate studies in modern languages. In 1959, she joined the Ballet Espanol Ximinez-Vargas company and began dancing in a semi-professional capacity. To supplement her income, she began taking on Arabic dance jobs with no dance training and learned middle eastern dance on the job. She then gained prominence as an oriental dancer, as she was the first oriental dancer to be invited to perform at the Brooklyn Museum in 1960 and she was the first belly dancer to receive a dance grant in 1972. She then began teaching belly dance globally, in countries like Morocco and Egypt (Varga 2013).
Other dance scholars theorize that the origin of belly dance is related to goddess worship in ancient religious practices. Scholars believed belly dance functioned as a means to worship the goddess of fertility (Karayanni 2009).

*Belly dance in the United States of America: A brief historical overview*

Although the Chicago World Fair of 1893 is commonly cited as the first documented appearance of belly dance in America within academic literature, the first documented introduction of belly dance to the American public occurred at the Philadelphia World Fair, also known as the Centennial Exposition, in 1876 (De La Cruz 2019). However, the Chicago exhibition was more influential in introducing belly dance to America, as this exhibition received a significantly greater amount of public attention and press coverage. The term belly dance, which is an American term, was coined by Congressman Sol Bloom at the Chicago World Fair in 1893 in the press coverage associated with the fair (Sellers-Young, 2003).

The Chicago Fair was the first large scale introduction of belly dance into the public realm in America. However, belly dance was likely practiced in the United States prior to the Philadelphia World Fair in the homes of Arab American citizens privately. There is evidence of individuals from the Arab Diaspora settling in the Americas as early as 1492, long before the prominent Chicago World Fair. Dance carries an important space as a social and artistic practice in middle eastern culture. Hence, the likelihood that immigrants from the Arab diaspora had been performing middle eastern dances in private settings, before the world fair, is high. However, there appears to be limited data to support this hypothesis due to lack of photographic and video evidence of these early migrants from the Arab Diaspora (De La Cruz 2019).

After this introduction of Middle Eastern dance to the American world, inauthentic western interpretations of Middle Eastern dance began to occupy a space within the American Dance culture and American pop culture. These performances were not authentic representations, but
cultural appropriations of Middle Eastern style dance. In American modern dance community, Ruth St. Denis, an influential choreographer who contributed to the modern dance movement in America, released many appropriations of middle eastern dance to the public in the early 1900s.

In the 1940s, migrant woman from the Arab diaspora, who learned authentic belly dance in their home country, began performing in Greek, Lebanese, and other Middle Eastern night clubs in America. In addition to performing in restaurants and nightclubs, these migrants taught authentic belly dance and proper belly dance technique to American women (Sellers-young 2003). These women planted the seeds for the growth of authentic belly dance styles being practiced and performed in the United States.

Because a mix of Middle Eastern style dances were being performed at these US-based venues, a hybrid performance entertaining culture started to take shape, which led to the creation of a distinctive American style of belly dance. The cultures represented in this polyglot culture include Greek, Armenian, and other middle eastern cultures (De La Cruz 2019). Performing with a live band was also an important aspect of belly dance performance culture. Armenian musicians have been some of the most influential artists to play both Arab and Turkish music in Middle Eastern nightclubs in the United States. Armenian musicians also make a large majority of the available belly dance music recordings produced in America (De La Cruz 2019). In 2020, performing in restaurants and nightclubs with live music continues to hold an important space in the professional culture of belly dance in the United States of America. Currently, belly dancers continue to perform at restaurants and nightclubs in the United States (De La Cruz 2019).

From 1940 to 1960, a period known as the Golden Era of Egyptian Cinema, belly dance performance culture was starting to form in the United States, and the Egyptian Film Industry was enjoying great success. In the films produced in this Golden Era, dancers played central roles as they danced in the film. The style of dance shown in these movies were influential in shaping the
technique and style of contemporary belly dance. These dancers are still cherished figures amongst belly dancers around the world, including the United States. Individuals continue to look to these films to learn belly dance today. Taheya Karioka, Samia Gamal, and Soher Zaki are a few of the individuals whose dances have had a huge impact on belly dance technique in America and around the world (Telmissany 2013; Hawthorn 2019). Some belly dance moves are even named after these dancers, such as the “Soheir Zaki hip drop” (Hawthorn 2019).

Belly dance experienced a steep increase in popularity during the feminism and sexual liberation movement in America in the United States during the 1970s. As a result, belly dance participation reflected a sharp spike in popularity and many woman engaged in learning and performing belly dance. It has been estimated that hundreds of thousands of American women began to learn belly dance during this period, and this rise in popularity has been referred to as, “the belly dance movement”(Sellers-young 2003). With women as the lead figures in teaching, many began to learn and perform all styles of belly dance, from Moroccan to Uzbekistanian. Furthermore, the increased popularity of belly dance in America inspired the development of unique American styles of belly dance known as spiritual, cabaret, and American tribal style (Sellers-young 2003).

The political contentions between America and the Middle East also influence fluctuations in the popularity of belly dance in the United States of America. Belly Dance classes and nightclubs venues featuring belly dancers in the United States of America suffered a decline in popularity as the result of the September 11 terrorist attacks (Maira 2016).

Though belly dance has been practiced for over a century in the United States, very little academic discourse has occurred on the subject of belly dance, and no academically accredited dance program for belly dance exists in the United States. Furthermore, very little literature has been published about belly dance in academic peer reviewed journals. Most information about
belly dance comes from autobiographical accounts of individual belly dancers in the United States. This bias may stem from the perpetual hyper-sexualization of belly dance and its association with striptease (Sellers-young 2003).

Who Practices Belly Dance in the United States?

Belly dance is predominantly practiced by women in the United States; however, practice of the dance form is not exclusive to women. Men and individuals of other gender identities practice belly dance in the United States. Individuals in the United States make careers teaching belly dance, performing, selling costumes, and selling other merchandise related to belly dance. The belly-dance market in America primarily caters to women, as reflected in the sparse availability of male belly dance costumes. Belly dance practice is not restricted to any specific race, age, gender, or body type (Kim et al. 2011; Sellers-Young 2016). Unlike other dance forms, which may favor certain body types, American belly dance culture places great emphasis on body positivity, inclusivity, and acceptance. However, this body-positive culture does not translate in the professional belly dance market, where the consumer’s preference of young beautiful women for private gigs is apparent (Sellers-Young 2016). There are different styles of belly dance practiced in America. These styles are defined by variations in the movements, and these differences will be elaborated upon later.

The Origin of Stylistic Differences: Cultural Outgrowth

While little is known about the origins of the dance, the spread of belly dance grew due to cultural outgrowth of belly dance practice in many different regions of the world. As a result of these separate cultural outgrowths in different regions of the world, the dance form developed distinct styles specific to the various countries in which belly dance occupies an artistic space. Some of the countries that experienced cultural outgrowths of belly dance include, Egypt, Saudi Arabia, Iranian, Uzbekistan, Tajikistan, Turkey, and the United States (Sellers-young 2003).
many of these countries, such as Egypt, belly dance carries great importance in the artistic space of the culture and is an integral part of traditions and practices of the culture such as wedding ceremonies (Varga 2013). The Romini gypsy community also practice a style of belly dance unique to the community (Sellers-Young 2016). The stylistic differences can be seen in the dance movement techniques. Some of the glaring stylistic differences are the result of differences in local politics, laws, and prop use. For instance, Egyptian style dance lacks floor work, as floorwork is illegal in Egypt. Turkish belly dance places strong emphasis on the use of finger cymbals, which are used less in other styles (Arvizu 2013; Sellers-Young 2016).

*Stylistic Differences in Egyptian Style Belly Dance*

Egyptian style belly dance is the most influential style of belly dance amongst all the belly dance styles, and heavily influenced the development of other belly dance styles. Variation exists amongst belly dance technique within the genre of Egyptian style Belly Dance. Folkloric Egyptian dance, traditionally performed by the Ghawaazi people of Egypt, and ballet, both influenced stylistic development of Egyptian belly dance. Fundamentally, belly dance encourages women to develop their own personal movement style by mimicking the movement style and vocabulary of more than one person. The personalization of belly dance style to each individual further contributes to the stylistic differences exhibited amongst Egyptian style belly dancers (Sellers-Young 2016).

The differences within the genre Egyptian style dance are illustrated by the differences in the performance styles of two prominent Egyptian style dancers, Tahia Carioca and Samia Gamal. Tahia Carioca and Samia Gamal are two legendary Egyptian style belly dancers who appeared in during the Golden Age of Egyptian Cinema. Gamal danced with picturesque arms and leg extension, which both reflected western influences in her dance. On the other hand, Carioca’s movement vocabulary emphasized a variety of shimmies, influences by Egyptian baladi style
dance. These differences in performance illustrate that belly dance is inherently a highly personalized dance with a variety of differences in stylistic expressions within the genre (Sellers-Young 2016).

_Belly Dance Movement Overview: Embodied Vocabularies in Belly Dance_

There are many different styles of belly dance practiced around the world. A movement style in belly dance is defined by the nuanced way a performer shifts weight, adjusts the spine and torso, turns the head, and places the arms in the movement phrasing and the emotional ethos of the movements. Even though belly dance styles is highly personalized, there are certain trends in the belly dance movement styles dependent on world region. These differences have resulted in different belly dance styles categorized by region.

Shoulder and chest shimmies, both slow and fast paces, are a cornerstone of Turkish style belly dance. Egyptian style belly dance is known for the articulate hip movements. Egyptian style belly dance also contains many rolling abdominal movements and hip vibrations. Tunisian style belly dance is characterized by frequent sharp hip movements from one side forward. Iranian belly dance emphasizes torso movement, graceful arm posture, and expressive movement of the lips and eyebrows (Sellers-young 2003). These different stylistic variations of the dance all fall under the umbrella term belly dance (De La Cruz 2019).

_Belly Dance Technique_

_Body Domains._ Belly dance is an anerobic form as physical activity, as dance is generally considered to be anaerobic unless explicitly classified as aerobic dance (Wyon et al. 2016). Belly dance is a full body workout, as the dance engages different parts of the human body (De Leon 2006). The primary body segments of focus in belly dance are the head, chest, abdomen and pelvis.
As the name would suggest, the pelvic and abdominal movements of belly dance are a central focus in the movement style. Furthermore, the abdominal and pelvic movements of belly dance are what differentiates the dance form from other dance styles, like ballet or flamenco (Sellers-Young 2016). Proper belly dance posture requires one to keep their feet hip width apart and with erect posture (Varga 2016). The foot work in belly dance often requires the heel to be lifted and one’s weight to be on the balls of the feet or the metatarsal bones (Posey 2015).

**Muscle Isolations.** Muscle isolations are a central tenet of belly dance as an art form. Belly dance isolations mean that as a single segment of the body moves, one keeps the other segments of the body in stillness (Moreside et al. 2008). Belly dance is a dance that puts emphasis on control and isolated muscle movements to create muscle movement patterns. The proper execution of isolated muscle movements requires kinesthetic coordination and proprioceptive awareness of the body part producing the movement and attentiveness to movement quality in order to gauge if the movement is being executed to jerky or too fluidly (De Leon 2006).

**Head.** Hair flips are a common movement in belly dance which engages the head and neck muscles. Hair tosses in belly dance range from simple hair tosses, like a side to side hair toss, to complex hair tosses, such as an Iraqi hair flip (Komarnytska). The head also is often used as a platform to balance a prop in belly dance (Varga 2016).

**Arms.** Unlike other forms of dance that predominantly use effort/flow quality that is bound, such as ballet, the arm and hand movements in belly dance are freer. The movements tend to be light and flexible, not stationary or direct in space, but tend to use indirect spatial pathways. During the dance, the arms are often places be stationed overhead, at chest level, or at hip level. An arm movement known as snake arms, is a fundamental arm movement in belly dance. To perform the snake arm, one moves the shoulders, elbows, and wrists in cohesion to create a free, light, and flowy arm movement. Many variations of the snake arm movement are performed in belly dance.
The shoulder performs a rolling motion followed by the elbow and last followed by the wrist. Shoulder shimmies are another common arm movement in belly dance. To perform a shoulder shimmy, the right and left shoulders move backwards and forwards in an alternating fashion. Shoulder rolls are also a common belly dance movement, wherein the shoulders move in a circular motion. If the arms are not moving, the arms are usually held in a stationary position framing the movements of the hips or other parts of the body. For instance, one may place their hands near their hips during a shimmy to bring attention to the movement.

**Chest.** Belly dance engages the chest as well, in movements like a chest lift, chest circle, and rib slide. In chest lifts, the dancer lifts the thorax while keeping the pelvis stationary (Moreside et al. 2008). To perform a chest slide, one horizontally moves the right and left side of the chest while the torso remains still.

**Abdomen.** Abdominal movements in belly dance involve direct and bound tensional flow to isolate and contract specific abdominal groups and not contract other abdominal muscles. Belly rolls and belly flutters are two common abdominal movements in belly dance. To perform an abdominal flutter, one breathes and contracts the abdominal muscles to create a fluttering movement (Varga 2016). To perform a belly roll, one contracts the upper and lower abdominal muscles independently to create a visible wave like motion in the abdominal area (Moreside et al. 2008).

**Pelvis.** Various tilting motions of the pelvis are fundamental to the pelvic motions of belly dance. The pelvis is not always bound under the body but moves freely in belly dance. The different hip movements of belly dance require different tensional flows to execute. For instance, hip shimmies use indirect and free tensional flow. To perform a hip shimmy rapidly alternates the bending and straightening of the right and left knee (Varga 2016). This bending and straightening results in tissue vibration. Hip drops use direct and bound tensional flow. Hip drops involve
laterally tilting a pelvis, by elevating one hip, and shifting one’s weight from the elevated hip into the depressed hip and opposite leg. During a hip drop the dancer will also contract the gluteus muscles to make the movement more visible. Hip circles use bound tensional flow, wherein the pelvis undergoes a transverse push forward and then a push back (Marquis and Gurvitch 2015; Posey 2015). (Varga 2016). The slow rocking of the pelvis, wherein the pelvis performs flexion and extension in alternation in the sagittal plane (Or 2006; Moreside et al. 2008; Cowan 2016). Hip circles may be performed clockwise or anticlockwise pelvic rotations (Varga 2016).

Props in Belly Dance

A wide array of belly dance props are used in belly dance. For example, a sword or dagger is often incorporated in a balancing act. A Moroccan tea tray is another prop that belly dancers may balance on their heads. Isis wings and fan veils are two props that are not traditional to belly dance performances in the Middle East. A cane is a prop commonly used in folk and ethnic Middle Eastern dances. These two props are unique to American Tribal, Goth, and fusion belly dance performances. Extensive veil work using a silk or chiffon veil is commonly seen in the belly dances performed in the United States. Some belly dance performance incorporate the use of percussive instruments, like tambourines and finger cymbals, which are also known as zills (Varga 2013).

Belly Dance Costuming

Belly dance costuming is dependent on the dance style. The bedlah, which is the traditional Egyptian bra and belt worn by belly dancers, is a common costume in belly dance performances in the United States. The bedlah exposes the midriff. There is a lot of room for individualized and personal expression in the culture of belly dance costuming as well. Fun twists on the stylization of the traditional bedlah are prevalent in the performances of niche belly dance styles, which are offshoots of traditional American style belly dance. For instance, gothic style
belly dancers often incorporate elements associated with goth culture, such as dark lace and spikes, into the costume (Frühauf 2009).

**Belly Dance Instruction**

*Nonverbal Instruction Style.* Belly dance instruction does not heavily rely on oral instruction. Belly dance is a dance form that lacks a unified tradition, which means there is no recognized authority to dictate the norms and names of standard belly dance movements. A lack of consistency exists in the language used to specify the different belly dance movements dually complicates attempts to verbally discuss the dance’s movements, as a universal language for belly dance movement does not exist (Sellers-young 2003). From the perspective of Sellers-Young, this lack of a classical tradition may be the reason that less focus is placed upon oral instruction in belly dance training. Instead of verbal instruction, belly dance is learned through optical consciousness, which involves observing the instructor performing in a mirror, or simply observing the instructor without a mirror (Sellers-Young 2016). Students try to look and embody the movements the teachers perform.

*Emphasis on Individuality.* Belly dance is a highly individualized dance, which enables women to dance without the burden of conforming to physical or skill expectations (De Leon 2006). This freedom from an embodied expectation in performance is different from other dance forms, which may have a very rigid classical tradition. The freedom lent through individualized practice makes the dance more accessible to individuals with variable, or no formal, dance training. In belly dance, because the dance is highly individualized, women do not copy the instructor’s movement exactly, as the movements look different on different bodies.

*The Use of Characters.* Belly dance instructor’s classes often encourage their students to embody characters or characteristics. The characteristics of a belly dancer embrace the feminine.
Some of these characteristics include secure femininity, awe of fertility, and womanhood. Other characteristics of a belly dancer include sexual confidence and a love of one’s body (De Leon 2006). The use of costumes in belly dance assists individuals in embodying archetypes (Wort and Pettigrew 2003).

_Belly Dance and Feminine Empowerment_

The philosophy of belly dance practice in America is rooted in feminine empowerment. Feminine empowerment is defined as the, “process in which women come to believe in their ability to construct, and take responsibility for, [their] gendered identity, [their] politics, and [their] choices.” (Shea 1990). This culture of feminine empowerment can be traced back to the introduction of belly dance in America during the world fairs, as the dancers, “challenged conventional definitions about oriental female roles and subverted the American Victorian model of femininity” (Simour 2014). The three psychosocial domains of feminine empowerment are, (1) “power within to represent self-esteem and confidence, (2) power with others through collective identity and solidarity, and (3) power over access to social entitlements. Feminine empowerment gives women the power to address power imbalances, social exclusion, and vulnerability in a social context (Blanchard et al. 2013).

_Empowerment Within_. The first psychosocial domain of feminine empowerment involves empowering women within, through the instillation of self-esteem and confidence. The incorporation of feminine archetypes in belly dance instruction encourages individuals to explore their inner femininity. Some of these archetypes include earth goddess, gypsy dancer, and sensual queen (Deagon 1999).

Definitions of feminine empowerment place physical appearance as a central force in a woman’s sense of confidence in her femininity (Tolman et al. 2006; Stuart and Donaghue 2012;
Lazar 2014). A woman’s beauty practices are often equated with her self-worth. This equating is illustrated in contemporary beauty advertisements, which sell beauty products to women and promise confidence, self-esteem, and being more in touch with an internal feminine power (Gill 2008). Such beauty practices assist in helping women to attain feminine ideals of “frailty and frivolity” (Stuart and Donaghue 2012). These ideals neither embody strength nor do they situate women in an empowered conscious. During puberty, women often experience a decline in self-confidence due to dissatisfaction with their physical appearance (Tolman et al. 2006).

Traditional definitions of feminine identity situate women in an disempowering role, wherein a woman’s physical attractiveness and elegance represents her femininity (Lazar 2014). By instilling self-confidence, women reclaim the freedom to choose their level of participation in socially promoted beauty practices, and reclaim the definition of femininity (Stuart and Donaghue 2012). Belly dance practice in the United States is also centered around authentic feminine expression.

Collective Identity. The second psychosocial domain of feminine empowerment is power with others through collective identity and solidarity. Finding power with others through a positive collective identity can lead to feminine empowerment. The concept of sisterhood is a core theme in empowering the collective feminine identity. Sisterhood is defined as union and connection of women for the enjoyment of a culture centered around the wellbeing of women. Engagement in women’s circles, which are informal gatherings where women connect, are a method through which women develop sisterhoods and empower themselves (Krane and Davies 2002; Longman 2018). This contrasts with some of the competitive conditions that society may associate with femininity, which can pit women against each other.

Access to Social Entitlements. The third psychosocial domain of feminine empowerment is empowerment of access to social entitlements. Social entitlements refer to government benefits
services that citizens of the country are intitled to by law (Cox 1998). Women are disadvantaged by the way power dynamics impact their personal choices, opportunities, and wellbeing. Power relations between the genders that are societally constructed can impact a woman’s access to social entitlements (Mosedale 2005). Social justice efforts play a role in facilitating these interests (Nussbaum 2003).

**CHILDBIRTH**

Childbirth refers to the time period during which an individual is in labor and delivers a baby at the end of gestation. In natural childbirth, the baby travels through the birth canal and is expelled from the body. In a Caesarean section, the baby is surgically delivered (World Health Organization 2018). Childbirth is a complex physical, psychological, and psychosocial experience. In the physical domain, women experience increased levels of cortisol and oxytocin during childbirth (Bell et al. 2014; Benfield et al. 2014). The uterine contractions during childbirth result in high levels of pain (Labor 2008). During the pushing stage of childbirth, the mother exerts force from her abdominal muscles to push the baby out. The pelvic floor muscles stretch so the fetus can leave the body (Swanson 2001; Oliveira et al. 2016). In the psychological domain, mothers may experience fear, anxiety, and fatigue in childbirth (Groër et al. 2005; Akgün et al. 2019). In the psychosocial domain, woman transition into motherhood and experience high levels of infant bonding during childbirth (Feldman et al. 2010; Hildingsson et al. 2013)

<table>
<thead>
<tr>
<th><strong>Stage of Labor</strong></th>
<th><strong>Average Duration</strong></th>
<th><strong>Dilation (cm)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Latent Phase</td>
<td>6-8 hours</td>
<td>0 – 5</td>
</tr>
<tr>
<td>Active Phase</td>
<td>10-12 hours</td>
<td>5-10</td>
</tr>
<tr>
<td>Second Stage</td>
<td>30 – 40 mins</td>
<td>N/A</td>
</tr>
<tr>
<td>Third Stage</td>
<td>6 minutes</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Note: The following table depicts the stages of labor along with the durations and cervical dilation of each stage.
The World Health Organization divides labor into three stages, which are the first, second, and third stages (see Table 2). The first stage of labor contains two stages, the latent first stage and the active first stage. The period in which a woman begins to experience contractions up until the cervix is 5 cm dilated is the latent first stage. Significant variation exists amongst woman in the duration of the latent first stage, but the length of the latent first stage for primigravida, which is a woman who is pregnant for the first time, often falls between 6-8 hours (Marshall and Raynor 2014). The active first stage of labor is the period in which a woman experiences cervical dilatation from 5cm up to complete dilation, which is generally considered to be 10 cm. The duration of the active first stage is generally 10 to 12 hours. In the second stage of labor, an individual's cervix is fully dilated, and she experiences expulsive contractions, which cause a woman to experience the urge to bear down and push the baby out. Normally, the second stage is no longer than three hours (Marshall and Raynor 2014). The length of average length of the pushing phase varies based on pushing technique. The pushing phase begins when the cervix is fully dilated (Yildirim and Beji 2008). The average duration of the second stage for spontaneous pushing is 41 minutes, while the average duration of the second stage for Valsalva pushing is 50 minutes (Yildirim and Beji 2008).

The third stage of labor involves mother and childcare after childbirth (World Health Organization 2018). It is the duration of time between the birth and the expulsion of the placenta (Marshall and Raynor 2014). The duration of the third stage of generally does not exceed an hour, and is on average 6 minutes (Taebi et al. 2012). At the start of the latent phase of labor contractions are roughly 15-20 minutes apart, but at the start of active phase the contractions are under 5 minutes apart (Impey and Child 2005; Simkin 2016).
CHILDBIRTH EXPERIENCE

Birth experience refers to the experience of giving birth, wherein a woman undergoes an intense physical, mental, emotional, spiritual, and social experience, which has a long-term implications on a woman's health and wellbeing (Karlström et al. 2015). A traumatic childbirth experience is not good, as it may impact infant bonding (Larkin et al. 2009)

*Physical Experience of Childbirth*

**Cortisol Levels.** Psychophysiological stress is experienced in childbirth. The negative feedback loop of the hypothalamic-pituitary-adrenal axis (HPA) axis, which is implicated stress response, and the feed-forward loop of feto-uteroplacental corticosteroids both regulate maternal cortisol levels in childbirth. Cortisol a steroid that facilitates the use of stored energy to cope with stress (Thomson 2013). An individual’s baseline cortisol levels increase with the progression of pregnancy and further increase during labor. This increase in cortisol levels is important for healthy labor progression. Variations in cortisol levels are exhibited amongst laboring pregnant women. The differences in anxiety, pain, and other adverse events experienced amongst pregnant women may be associated with the observed differences in cortisol levels amongst pregnant women (Benfield et al. 2014). Plasma cortisol levels have shown to be inaccurate indicators for stress and anxiety in pregnancy (Baibazarova et al. 2013). This may be, in part, due to the role of chronic maternal distress on the normal regulation and function of corticotrophin-releasing hormone, a peptide implicated in HPA axis regulation, throughout the course of pregnancy. Increases in corticotrophin-releasing hormone may occur before term as the result of stress and may cause women to go into preterm labor, which is associated with health complications like reduced birth weight and slow growth rate (Weinstock 2005). Anxiety during labor can prolong labor due to the
production of excess adrenaline, which interferes with uterine activity (Marshall and Raynor 2014).

**Oxytocin Levels.** Oxytocin is a hormone that buffers stress activity, supports emotional and mental wellbeing, and promotes social bonding behaviors (Olff et al. 2013). Plasma oxytocin levels across pregnancy predict levels of mother infant bonding (Feldman et al. 2007). Oxytocin plays a role in stimulating the onset of labor and contractions. Oxytocin receptor concentrations are highest at the start of labor and decrease as labor advances (Fuchs et al. 1982). During pregnancy, oxytocin levels are kept very low, as the level of oxytocin surges during childbirth. The surge of oxytocin plays a role in a woman’s transition to motherhood, which involves high levels of social interaction and bonding with an infant. Healthy oxytocin levels are linked to positive mothering behaviors after childbirth as well (Bell et al. 2014). Oxytocin levels additionally play a role in the facilitations of breastmilk production (Jonas et al. 2009).

**Pain.** High degrees of pain are experienced during childbirth. The onset of uterine contractions has shown to cause a generalized stress response during labor. In the first stage of labor, pain is visceral. In the transitional and second stage of labor, somatic pain is more prominent. Therefore, the pain experienced in uterine contractions and delivery are different in nature (Brownridge 1995). Contractions cause pressure on the cervix, which causes stretching, distension, and activates excitatory nociceptive afferents. The intensity of labor pain increases with increased cervical dilation. The pain experienced in early labor is felt in the lower abdomen, sacrum, and back. The visceral pain is due to the dilation of the cervix and lower uterine segment. The somatic pain is due to the stretching and distension of the pelvic floor, perineum, and vagina (Labor 2008).

Labor pain has been documented to play a key role in birth experience. The primary source of pain in childbirth are uterine contractions. Uterine contractions during childbirth are extremely painful. As childbirth progresses, the contractions become more frequent and more painful.
Woman generally experience more pain in childbirth than they expected, and this unmet expectation is one contributing factor to an adverse childbirth experience (Karlsdottir et al. 2018). The pain experienced in childbirth is quiet extreme and is said to be the most memorable pain many women have ever experienced (Karlsdottir et al. 2018). Both pharmacological and nonpharmacological methods of pain relief exist. The traditional belief surrounding labor pain is that effective pain relief in childbirth leads to increased childbirth satisfaction.

Women who experience less pain in labor report higher satisfaction in childbirth in comparison to women who reported higher levels of labor pain (Goodman et al. 2004). However, other bodies of research suggest that the relationship between pain and birth experience is more complex. Oxytocin plays a role in triggering the onset of maternal behaviors immediately before and after birth, and oxytocin levels also promote the relationship between mother and baby (Tomlinson 2010).

**Low Back and Pelvic Pain.** Pain localized to the low back area and the pelvic girdle are common in pregnancy. The pathophysiology of this back pain continues to be speculative, as the exact pathology is not well understood. Low back pain in pregnancy begins within the first trimester and tends to worsen within the course of the pregnancy (Kluge et al. 2011). Risk factors for this pain include a history of hypermobility, amenorrhea, and high parity (Mogren and Pohjanen 2005). The cause of this pain is often attributed to the increased load which occurs in pregnancy, which is challenging to account for in the normal functioning of body mechanics (Sabino and Grauer 2008). On average, women gain around 11.5 to 16 kg of weight during pregnancy (Aguiar et al. 2015). This increase in mechanical load in pregnancy significantly increases the amount of force experienced by pregnant women in hip by as much as 100% during a weightbearing exercise like running (Artal & O’Toole, 2003).
Postural shifts and the development of scoliosis can further exacerbate this pain. This scoliosis development plays a role in putting pressure on the lower back. During pregnancy the growth of the uterus and hormonal changes causes the abdominal muscles to stretch, specifically the rectus abdominal muscle. Maintaining strength in the abdominal muscles plays a role in the prevention of lumbar lordosis and lower back during pregnancy. The degree of stretching of the abdominal muscles increases as pregnancy progresses. The stretching of the abdominal muscles results in a loss of force and perhaps contractile strength (Kamel and Yousif 2017).

Musculature. During childbirth, a strong abdominal wall supports the uterus in an upright position to help allow for the cardinal movements of labor, which are changes in the fetal position while the fetus is passing through the birth canal. (Swanson 2001; Liao et al. 2005). During the second stage of labor, the abdominal muscles help to expel the fetus through the birth canal (Swanson 2001). The force generated by abdominal muscles can be estimated from voluntary Valsalva contractions before pregnancy (Li et al. 2010).

During childbirth, the pelvic floor muscles, specifically the levator ani, experience stretching as a result of the expulsion of the fetus. The levator ani is formed by three muscle components, which are the pubococcygeus, iliococcygeus, and the puborectalis. The levator ani contains striated muscles, which are known to be most in danger of injury when forcibly lengthened. The medial pubococcygeus experiences the largest amount of stretching in childbirth and is at most risk for stretch related injury. Pelvic floor muscles may suffer from permanent functional damage when stretched beyond a certain threshold. The stretching of the pelvic floor in a vaginal birth is an anatomical factor in the development of pelvic floor disorders, such as pelvic organ prolapse after childbirth (Oliveira et al. 2016). The maximum stretch ratio, which ranges from 1.6 to 3.5 is used to indicate the risk of stretch related pelvic floor injuries during childbirth. Uterine muscle fatigue may result in a condition known as atonic uterus, which decreases the
ability to exert a pushing force during the second stage of labor. This reduced pushing force may cause complications. Pushing style may impact the development of atonic utero, which may lead to decreased maternal pushing power (Li et al. 2010). The degree of pelvic floor stretching that occurs in childbirth is proportional to the fetal head size (Lien 2008). During the pushing state, the rectus abdominis diastishas a negative correlation with creating the forceful pushes that are needed to help to push the baby out (Oliveira et al. 2011). During the pushing stage, involuntary uterine contractions are followed by voluntary abdominal contractions (Qian et al. 2019).

In childbirth, the active expulsion forces of the uterus (Barakat et al. 2016) and the abdominal muscle conflicts with the opposing forces of the pelvic floor muscles and the skeletal muscles. Therefore, the pelvic floor acts as a resisting force during childbirth. (Li et al. 2010) Pain results from the stretching of the muscles and ligaments present in the pelvic cavity (Marshall and Raynor 2014).

Fetal head position impacts the stretch of the levator muscle. Babies born in the occipital-posterior fetal position cause a greater stretch of the levator Ani muscle in comparison to the Occipital-anterior position (Li et al. 2010).

Fetal Macrosomia, Shoulder Dystocia, & Prolonged Labor. Fetal macrosomia is a health condition where the fetus is overweight and weighs over 4000 grams. In fetal macrosomia, the myometrium becomes excessively stretched and inefficient (C.G. et al. 2009). A definitive diagnosis for fetal macrosomia can only be provided after childbirth, as only 22-37% of cases of fetal macrosomia are correctly diagnosed by ultrasound (Combs et al. 2000). Post-term pregnancy, diabetes, obesity, and a maternal age over 35 are all associated with a higher risk of fetal macrosomia. At 38 weeks of pregnancy, an individual with fetal microsomia will often undergo an elective cesarean section due to the size of the baby (Marshall and Raynor 2014).
Fetal macrosomia is associated with an increased risk of shoulder dystocia. Shoulder dystocia is occurring when the shoulders get stuck in childbirth, and the fetus cannot expel from the birth canal as a result. Shoulder dystocia is associated with oxytocin augmentation, prolonged labor, and operative births (Marshall and Raynor 2014).

Prolonged labor, also known as dystocia, is a common delivery complication, is characterized by slow progress in labor. The most common cause of this slow progress is insufficient uterine activity (Impey and Child 2005). Anxiety, which increases the production of adrenaline, may also contribute to prolonged labor (Marshall and Raynor 2014).

Psychological Experience of childbirth

Childbirth is a psychologically intense experience. At the end of positive birth experiences women feel a sense of accomplishment and empowerment. On the contrary, women who have negative birth experience may feel that they did not earn the right to motherhood.

Anxiety and Fear. At the start of childbirth, experiencing some feelings of anxiety is common. In a healthy childbirth experience, woman maintain a positive attitude in the face of the onset of this anxiety (Olza et al. 2018). The presence of anxiety disorders has been associated with fear of childbirth, which has shown to increase the likelihood of having a negative childbirth experience. According to one study, roughly 6% of women characterize their fear of childbirth as disabling (Zar et al. 2002).

Having a history of anxiety or depression also increases a woman’s risk of traumatic childbirth experience. Woman with a history of anxiety or depression are more likely to have a cesarean section. (Andersson et al. 2004). Woman with a history of childbirth experience an increased likelihood of an instrumental delivery (Carlsson et al. 2015). Fear of childbirth is
associated with anxiety and depression (Carlsson et al. 2015). Pre-existing generalized anxiety may amplify the experience of anxiety in childbirth, as some women may feel anxious about feeling naked and exposed during birth. More fear their anxiety would take aware their focus away from the birth (Dahlberg et al. 2016). These women may feel an increased amount of anxiety regarding the subject.

Fear plays an important role in a mother’s birth experience. Women with anxiety or depression may be more likely to experience a fear of childbirth Having a fear of childbirth is associated with previous birth experience, knowledge, and uncertainty (Hauck et al. 2007). Women who experience strong fears and thoughts related to the death of the mother or child are more likely to report posttraumatic stress as a result of childbirth (Ayers 2007). Common anxiety disorders include generalized anxiety disorder, phobias, obsessive-compulsive disorder, and posttraumatic stress disorder. Tocophobia is a pregnancy-specific type of anxiety disorder wherein the fear of labor is debilitating. Tocaphobia can develop during the prenatal period or postnatally after experiencing a traumatic birth experience. Woman with tocaphobia are more likely to elect to have a cesarean section (Dossett 2008). Women exhibit fears associated with the health and wellbeing of the baby (Hauck et al. 2007). Some studies suggest that fear of childbirth is associated with low self-esteem (Saisto and Halmesmäki 2003). Common fears of women who are high fear include losing control during delivery, general fear of childbirth, something wrong with the baby, and painful contractions (Lowe 2000). Meta-analysis of both randomized and non-randomized controlled studies found that psychoeducation is an effective method of reducing fear of childbirth and cesarean section rates (Akgün et al. 2019). A phenomenological study of eight women with a severe fear of childbirth revealed that the experience of childbirth associated fear is complex and can result in a variety of negative thoughts. Apart from fearing for the health of the mother and child during childbirth, other sources of fear include, feeling trapped and feeling like an inferior
mother-to-be. Some women feel the pressure of not complaining and silently enduring the fear of childbirth alone as a result of society expectations. This likely further amplifies the fear. Some women harshly judge themselves for fearing childbirth and feel it makes them inferior in comparison to other mothers. Some women feel trapped by the fear and wish they never became pregnant. Fear is also shown to play an important driving force in a woman advocating for herself and asking for what she needs from the healthcare staff in childbirth. Therefore, experiencing small amounts of fear may be an important component of childbirth. Maternal stress can trigger preterm labor (Dayan et al. 2002). Prenatal anxiety has been associated with a higher baseline level of hypothalamic-pituitary-adrenal activity, as maternal cortisol levels cross the placenta which can alter development of the hypothalamic, pituitary, and adrenal glands of the infant. Maternal anxiety has been associated with excessive infant crying (Dossett 2008).

**Depression.** There are different kinds of depression. Depression neurosis is manifested due to an excessive reaction due to an internal conflict of a loss of a loved possession. Major depressive disorder is associated with decreased energy, feelings of worthlessness or guilt, difficulty concentrated, decreased energy, and appetite changes. A prominent sad mood or loss of interest are diagnostic criteria. Peripartum onset of major depressive disorder is defined as during pregnancy or within four weeks within delivery of a child (Cooper 2017).

Prenatal depression is associated with preterm labor (Dayan et al. 2002). High rates of depression are Melancholic depression and atypical depression, which are two distinct presentations of depression. Depression experienced during the antenatal period may be more melancholic, which is associated with the rise of cortisol levels during pregnancy. The sudden drop of cortisol levels during parturition may cause atypical during the postnatal period (Kammerer et al. 2006). Many women suffer from depression during pregnancy. Women may worry about many things during pregnancy, which can trigger depression. Some common topics of worry include
experiencing changes in one’s body, experiencing pain in childbirth, and transitioning into the world into motherhood. Women with higher levels of expression are likely to show higher than normal fetal heart rates. Some studies show that there are no differences in hormone levels between depressed and nondepressed perinatal women, which may suggest that hormonal differences are not the cause of perinatal depression (Tomlinson 2010). Individuals experiencing depression are more likely to have a negative birth experience (Henriksen et al. 2017). During the postnatal period, women are three times more likely to suffer from depression than woman who did not give birth (Dossett 2008). Women who suffer from depression postpartum are more likely to breastfeed for a shorter duration and engage in abusive behavior towards their children (Dossett 2008). Proinflammatory cytokine IL-6 has shown to be elevated during the early postpartum period, which causes depression (Groër et al. 2005). Serum prolactin concentration is inversely associated with depression (Groër et al. 2005). Milk sIgA was inversely related to stress (Groër et al. 2005).

**Post-Traumatic Stress Disorder.** Around 2% of women develop Post-traumatic Stress Disorder (PTSD) after childbirth. An individual may develop PTSD after a negative birth experience. The diagnostic criteria for PTSD include experiencing a traumatic birth (Ayers et al. 2009). Perceiving a threat of injury or death during birth increases the likelihood of developing PTSD as the result of a traumatic childbirth experience. Post-traumatic stress disorder has a negative impact on prenatal attachment (Tomlinson 2010). Women suffering from PTSD related to birth trauma try to avoid reminders of the birth, such as the baby or midwife, which may result in a decrease in healthcare quality as a result of avoidant behavior (Ayers et al. 2009).

**Postpartum Fatigue.** Woman experience fatigue during and following labor and delivery. Both the psychological and physical fatigue impact woman in a negative manner during childbirth. Woman who experience low and high levels of fatigue during childbirth, find that the feelings of fatigue intensify after childbirth. Roughly 30% experience low-intensity fatigue, while
roughly 70% of women experience high intensity fatigue. Fatigue increases in a rapid manner during the active phase of childbirth. After childbirth, fatigue levels in the high-fatigue intensity class remained high. A high lactate concentration in arterial blood at hospital admission and high levels of anxiety increase the likelihood of a woman experiencing intense fatigue (Tzeng et al. 2008). Women who experience cesarean sections have higher levels of postpartum fatigue than women who deliver vaginally (Lai et al. 2015). Postpartum fatigue is associated with age, length of labor, instant difficulty, and sleep disturbances. Proinflammatory cytokine IL-6 has been shown to be elevated during the early postpartum period, which causes fatigue. Interleukin-1β and Milk sIgA levels are correlated with fatigue levels during the postpartum period. Prolactin levels are inversely correlated with postpartum fatigue. Fatigue is associated with depressive symptoms in both mother and baby. Fatigue symptoms are associated with symptoms of depression in both mother and baby (Groër et al. 2005).

Postpartum sleep deprivation is common. The sleep experienced in the postpartum period is often discontinuous and fragmented. This decreased sleep increases stress and interferes with the secretion of both oxytocin and prolactin. Postpartum fatigue is an early predictor of perceived stress and development of postpartum depression. The onset of fatigue is related to age and labor length. Sleepiness is correlated with infection and is weakly correlated with fatigue levels (Groër et al. 2005).

**Psychosocial Experiences of Childbirth**

Pregnancy is an emotionally vulnerable period and the emotions experienced during pregnancy can have long term health effects on mother and baby. An important component psychosocial component of the childbirth experience is the development of an emotional bond between mother and infant.
**Mother-infant relationship.** The surge of oxytocin plays a role in a woman’s transition to motherhood, which involves high levels of social interaction and bonding with an infant. Healthy oxytocin levels are linked to positive mothering behaviors after childbirth as well (Bell et al. 2014). The high levels of oxytocin in postpartum helps to facilitate mother infant bonding. Tactile stimuli is also important in the mother-infant bonding (Feldman et al. 2010).

**Maternal Confidence and Transition to motherhood.** Feelings of achievement after a childbirth experience impacts a woman’s ability to feel confident in their mothering abilities. For some woman, the experience of pain during childbirth is seen as a rite of passage to motherhood (Larkin et al. 2009). The transition to motherhood can be stressful. The newfound identity of a mother can be a source of great joy. The triumph of overcoming the pain of labor is often a source of confidence for a women to develop confidence to tackle motherhood (Leap and Dodwell 2010). A positive birth experience promotes a woman’s sense of achievement, which facilitates self-confidence, and is an important part of adapting to motherhood (Hildingsson et al. 2013). Woman all around the world have reported that experience of birthing a child was both difficult and empowering (Leap and Anderson 2008).

**FACTORS THAT INFLUENCE CHILDBIRTH**

There are many factors that can influence childbirth experience positively or negatively. The following section will provide an overview of the various factors, which includes factors related to belly dance, then can influence birth experience.

*Individual Preferences for the Childbirth.* Each woman has a unique set of values and preferences, which determine her desires and demands during childbirth. For a woman to have a
positive birth experience, her experience should be highly personalized according to her personal values and preference (Rosen 2004). Individuals have different priorities for their childbirth experience. For instance, some women may prioritize an unmedicated birth while others may view receiving pharmacological pain relief as a critical component of a positive birth experiences.

A woman’s ability to exert power in the decision-making process during childbirth plays an important role in allowing a woman’s values to shape the childbirth experience and not the inclinations of others, such as the healthcare staff or family members (Namey and Lyerly 2010). Furthermore, receiving individualized support during labor increases an individual’s chances for a positive birth experience (Nilsson et al. 2013). Various factors influence a woman’s preferences and needs during childbirth, including her personal health history, family history, and socioeconomic factors. For instance, women of low socioeconomic status are more likely to prioritize the health of the baby and having a painless delivery, while control and self-empowerment are priorities of women of high socioeconomic status (Lundgren et al. 2003). Some women may have experiences with sexual trauma, which may also influence individual needs for childbirth. For instance, a woman with a history of sexual abuse may have difficulty trusting their body, which can lead to an increased amount of anxiety and paranoia in childbirth regarding the safety of oneself and her child (Heritage 1998).

Belly dance is also a dance easily catered to an individual’s preferences. Belly dance encourages individual creative expression. Belly dance encourages individual expression by encouraging women to not copy the instructor’s movement exactly, but to move with the intention of expressing one’s individual feelings. Women can tailor the movements of belly dance to what feels good for their individual bodies and cater the dance to their individual preferences (De Leon 2006).
**Individual Expectations of Childbirth.** A woman’s expectations of her childbirth experience influence whether her birth experience is satisfactory. An important source of dissatisfaction for women in childbirth are unmet expectations. A woman’s expectations for her childbirth are complex, multivariate, and dynamic. Thematic analysis of data obtained through a literature review and the semi-structured interviews of eleven participants revealed five major categories of childbirth expectations. Expectations regarding pain, which includes how painful the labor would be. Expectations regarding childbirth self-efficacy, which refers to how well a woman will be able to cope with the labor. Expectations regarding the significant other and how helpful their support will be, and expectations regarding the environment, which includes expectations to feel comforted by the healthcare staff (Gupton et al. 1991). Women who expect to give birth without medical complications often are sometimes faced with complications. A longitudinal study of 164 women expecting to give birth vaginally found that woman who delivered the baby via cesarean section due to unanticipated medical complications were significantly less satisfied with their childbirth experience. This decrease in satisfaction was in part due to the unmet expectations regarding delivery mode (Deluca and Lobel 2014). Thus, going into childbirth with realistic and flexible expectations is important. A woman may have a wide variety of expectations regarding her childbirth experience. One cause of the development of misinformed expectations are the stories of families and friends. Because women are often heavily reliant on stories of childbirth from family and friends for prenatal education, they may not develop a cohesive understanding of the unpredictability of childbirth as a result. These stories have shown to be a source of unrealistic expectations for childbirth in the birthing mother (Moffat et al. 2007). Having unmet expectations contributes to a decreased likelihood of a mother being satisfied with her childbirth experience (Hauck et al. 2007)
Fearing Childbirth. Women who exhibit excessive fear of childbirth and labor are more likely to experience a birth in a negative manner. Engaging in dance which included pelvic rocking during childbirth has shown to significantly reduce fear during the active phase of labor (Dikmen 2020).

Childbirth Education. Being adequately informed regarding the childbirth process is important for a positive childbirth experience. Woman are encouraged to take childbirth education classes in order to inform themselves about childbirth experiences. Woman may elect to hire a doula, someone who is knowledgeable about the birthing process to assist them in knowing their options and make an informed decision. Investigations into how women educate themselves on childbirth reveal that being adequately informed is important to maintaining a sense of control, which functions to help with childbirth. Woman with a dissatisfying birth experience commonly attribute misinformation or not being adequately informed as reasons they were not satisfied with their birth experience (Hauck et al. 2007) This lack of information can contribute to a woman feeling less control during their childbirth experience (Hauck et al. 2007). Going into the birth well informed can help equip women with the tools to make emergency and non-emergency decisions.

Furthermore, learning about common feelings and experiences in childbirth in the pre-labor period will help prepare a woman to navigate her own experiences during childbirth. Personal accounts and stories shared by family and friends plays a fundamental role in educating a woman on the nature of childbirth (de Quattro 2019). While one my argue that relying on stories shared by friends and family may lead to unrealistic expectations, hearing these stories may also have benefits’ By hearing the childbirth stories and experiences of other women, one is able to develop a unique multi-dimensional understanding of the childbirth experience that facts and figures fail to offer. Through this process of education, women receive supportive messages that uplift spirits.
and positively shape attitudes regarding the birth experience. Hearing negative childbirth stories can cause a woman to fear and feel stressed about childbirth (Tsui et al. 2006). Storytelling often plays an important role in prenatal mother groups (de Quattro 2019). Whether or not engaging in prenatal mother groups increases the likelihood that a woman is exposed to positive childbirth stories has not been studied. The implications of increased exposure to more positive stories may result in an increased positive attitude, as these stories play a significant role of shaping the expectations a woman has for her own birth experience (de Quattro 2019). However, the impact of relative exposures to positive and negative birth experience stories on the development of a positive attitude regarding childbirth remains unknown. It is possible that engaging in a prenatal woman group helps a woman navigate through both the positive and negative stories she has heard to help her shape her attitude about childbirth positively. Whether or not engaging in a prenatal mother group exposes a woman to an increased level of stories that impact her birth experience and helps her feel even more well informed is unknown.

In a qualitative study by Ilona Pappne Demecs, 7 pregnant women participated in six 2-hour long creative arts classes. The creative arts activities included singing, belly dance, storytelling and weaving something for their baby. The storytelling aspect of the program helped women feel more connected and more self-confident (Demecs et al. 2011).

**Previous Negative Childbirth Experience.** Having experienced a traumatic childbirth previously also makes women more likely to have uncomfortable feelings about childbirth. Women who have experienced a traumatic childbirth experience in the past more likely to request an elective c-section in an effort to avoid another childbirth or avoid childbearing altogether (Gardner 2003). Women with a prior negative birth experience an escalation of anxiety and stress levels in the last trimester of pregnancy (Gardner 2003). Risk factors for a traumatic birth
experience include the use of medical interventions like Pitocin, forceps or vacuum, having a fear of maternal or fetal death, having experience a long and difficult labor, an inability to maintain a sense of control during the childbirth experience, and infant demise or injury. (Gardner 2003).

**History of Sexual Trauma.** Past sexual trauma places an individual at an increased risk for a traumatic birth experience. Having a history of sexual trauma is the strongest predictor of a women developing postpartum PTSD (Simpson and Catling 2016). For instance, a woman with a history of sexual abuse may have difficulty trusting her body, which can lead to an increased amount of anxiety and paranoia in childbirth regarding the safety of oneself and her child (Heritage 1998). Some women with a history of sexual abuse coped with the labor psychologically disconnecting from bodily sensations. These woman may be unable to detect fetal movements, may be unaware of pregnancy until a later stage, or may not notice contractions until active labor (Heritage 1998).

On the other hand, some woman may become hypervigilant of every bodily sensation as a result of their sexual abuse. Woman with a history of sexual abuse often experience intense fear associated with attending childbirth class (Heritage 1998). Survivors of sexual assault may experience flashbacks or a sense of being dissociated during labor (Heritage 1998). Survivors of sexual assault may also fight labor sensations and find the idea of pushing a baby through the birth canal extremely terrifying (Heritage 1998). Survivors of sexual assault may react negatively if they have a girl, because they fear they will not be able to protect her from sexual assault, or a boy, because he may remind her of the sexual assault period (Heritage 1998). Talking about fears with providers, working with trained therapists, and attending a support group, are some of the recommended treatments to help pregnant sexual abuse survivors (Heritage 1998). Belly dance therapy has been shown to help women overcome sexual trauma (De Leon 2006). Further research
is needed to confirm whether or not belly dance can help women overcome sexual trauma during the prenatal and postpartum period (De Leon 2006).

**Relationship with Healthcare Provider.** A woman’s interactions and relationship with the healthcare staff during her childbirth experience also plays a crucial role in a satisfying birth experience. For a positive birth experience, it is important for the midwife to treat the patient with a kind demeanor. According to a qualitative study which interviewed women about their experiences with the midwife during the childbirth, “friendly and gentle,” were two qualities women desired in their midwife. Having a midwife who is rough or rude could result in the patient feeling uncared for (Berg et al. 1996). Women also value having a midwife who appears attentive, as woman who deemed their midwife mentally present felt that the midwife was better able to sense her individual needs (Dahlberg et al. 2016). A midwife’s attitude and demeanor towards a patient impacts a woman’s satisfaction with her birth experience. A caregiver’s intrapersonal skills can enhance labor experience and transcend other attributes such as pain relief (Larkin et al. 2009). Women who feel they were treated poorly by their healthcare staff characterize their healthcare staff as, offensive, harsh, insensitive, threatening judgement, and abrupt (Vedam et al. 2017). Respect is conveyed by ensuring privacy, protecting modesty, providing complete information, nonjudgmental care, protecting patient right, and respecting the patient’s existing relationships (Adams and Bianchi 2008).

Having a bad relationship with one’s healthcare provider may make one unwilling to be open with other health professionals. This lack of trust and openness may contribute to a less satisfactory birth experience. For a woman to have a positive birth experience it is important that there is ample communication between her and the healthcare staff throughout the childbirth. Especially in childbirths with unexpected complications, lack of communication from the healthcare staff has been linked to psychological distress (Goodman et al. 2004). Pertinent
information that a provider should communicate to the patient pertinent details about procedures, general information throughout the pregnancy, and information about self-care behaviors women can do throughout their pregnancy to help with the childbirth experience (Ledford et al. 2016). Continuity of care is a strong factor in influencing a mother’s satisfaction with her birth experience. Women prefer to see the same provider throughout their prenatal care period and during the childbirth (Ledford et al. 2016). Women’s perceptions of continuous and respectful treatment were related objectively to continuity of care (Williams et al. 2010).

It is important for the mother’s expectation for labor and birth to be acknowledged and supported by her healthcare practitioner for a positive birth experience. This includes listening to her wishes, which is facilitated by encouraging the patient to verbalize her needs and fears and conveying to her that she has the right to choose, as well as giving her sufficient time to consider her options (Adams and Bianchi 2008). Assisting the mother in making informed choices may be facilitated by thoroughly explaining the risks and benefits of her procedure. Postnatal interviews have shown that women value the continuous presence of their midwife during labor, even though midwives felt it was more important that the women met their midwife before the labor (Proctor 1998). Woman who deemed their midwife mentally present felt that the midwife was better able to sense her individual needs (Dahlberg et al. 2016).

A woman must be able to trust her midwife during her childbirth. Lack of trust in healthcare staff is not desirable for a woman giving birth. Factors that result in the development of a trusting relationship between the patient and the healthcare staff include, amicable attitude of the healthcare staff, the patient feeling like her midwife is a good fit for her needs, and lots of communication between the midwife and the patient during the childbirth (Brown and Lumley, 1998).

Medicalization of Childbirth. The medicalization of childbirth is defined as childbirth being viewed as an illness and treated as a problem and treated with medical intervention
(Brubaker and Dillaway 2009). The medicalization of childbirth and a procedure-centered healthcare experience may have negative impacts on a woman’s childbirth experience. Historical analyses by feminist theorists has attributed the medicalization of childbirth to a patriarchal model of healthcare that views women’s victims of their own biology. However, pregnancy is not a disease or illness. Therefore, it should not be seen and treated as an illness. The medicalization of childbirth has resulted in an increased amount of unnecessary and excessive amounts of medical interventions conducted under the pretext of safety (LoCicero 1993). Healthcare providers and managers tend to value clinical competence above caring behaviors, this tendency has been referred to as procedure-centered care in the literature (Lambert et al. 2018). While technical skills and clinical competence are extremely important, a caring demeanor should not be undervalued. Patient-centered care offers a more human-centered approach to childbirth. The components of a patient-centered healthcare approach in childbirth have been defined as, continuity of care, explanations and information sharing from health caregiver, empowering the patient to take care of themselves by teaching patients self-care behavior, asking for the patient’s perspective in decision making, tending to the emotional needs of the patient by providing emotional support, and inclusion of the patient in medical decision making (Ledford et al. 2016). The extent to which they feel that they are actually cared about will affect external control (Green and Baston 2003).

Control. A woman’s ability to maintain a sense of internal control throughout the birth experience plays a role in her satisfaction with her birth experience. Internal control refers to the ability to control one’s thoughts, bodily functions, and behavior (Meyer 2013). The pain of the contractions in childbirth is intense, consuming, and uncontrollable. The uncontrollable nature is the result of a woman’s inability to control the pain or frequency of contractions in childbirth. As a result of being consumed by the pain, women experience a loss of internal control. First time mothers have described feeling a loss of control as worse than the pain experienced in childbirth.
(Nilsson et al. 2013). Some women view this loss of internal control as a dignity-compromising experience, as they may behave in a way that is undesirable to themselves (Namey and Lyerly 2010). During this experience of intense pain, some feel a loss of control of their own actions through behaviors such as screaming.

A woman’s perception of feeling in control may change throughout the labor (Larkin et al. 2009). Having power in medical decisions plays an important role in a woman maintaining a sense of external control (Namey and Lyerly 2010). Women being included in medical decisions plays a big role in a woman feeling in control during her childbirth experience (Larkin et al. 2009). Healthcare providers have been shown to have an unfavorable view of birth plans (Afshar et al. 2017). This unfavorable view may reflect a preference for patients who advocate for themselves less and have fewer desires surrounding their childbirth. Knowledge about the birthing process has shown to be important for a women to be able to take part in decision-making during the childbirth process (Karlström et al. 2015). A woman being included in decision making is an important aspect of helping her feel in control during her childbirth experience (Namey and Lyerly 2010). Communicating to a woman her choices and options is an important way to include women in the medical decision-making process.

Having knowledge about common occurrences and sensations during childbirth has also been shown to help women maintain a sense of control in childbirth (Namey and Lyerly 2010). For instance, during the active stage of labor a woman experiences expulsive contractions and is required to voluntarily bear down and push the baby out. The ability to control one’s bodily functions and voluntarily push during active phase helps women maintain a sense of control during childbirth. Women who did not expect how pushing might have felt or who felt did not know how to push can come out of labor feeling they were unprepared (Lavender et al. 1995).
Women may also obtain pain medication to decrease the pain experienced in childbirth. Receiving pain medication can help some women regain a sense of control over their body (Nilsson et al. 2013). Woman who were given a button that they could press to increase or decrease the amount of epidural they were receiving, felt more in control, as they felt they had control over the decision of what going to happen to her body (Namey and Lyerly 2010). A study that used a logistic regression model to analyze the association between the mother’s perception of shared decision with various factors found that mothers who were in marginalized ethnic groups or underwent a medical intervention such as labor induction or cesarean section, were less likely to feel included in the decision making process in childbirth (Attanasio et al. 2018). Adequate communication from the healthcare staff is also an important enabling factor for shared decision making to occur in the delivery room. A common regret women have regarding childbirth during the postnatal period is not speaking up and advocating for themselves and their own desires during childbirth or asking more questions (Konheim-kalkstein 2019). Some women may feel the need to give control to the midwife when necessary (Olza et al. 2018).

Having environmental control can contribute to a positive birth experience (Adams and Bianchi 2008). Having control of the room temperature can contribute to a sense of control over the environment. Women like to control sounds in the delivery room. Woman can control sound by listening to music. Some studies show that music reduce pain in labor (Phumdoung and Good 2003). If woman gives birth in the hospital, noises from the machines could either contribute to a sense of comfort or dissatisfaction with the environment. Woman may control smells through the use of essential oils. Essential oils may offer other calming benefits to the woman. Some woman may prefer to birth at home instead of in a hospital to maintain a sense of control.

Confidence. A woman’s confidence in her ability to face the physical and mental challenge of childbirth comes from birth stories and past history of strenuous physical achievement such as
running a marathon. Human connections can impact confidence levels both negatively and positively. Past experiences of strength and determination can help with building confidence (Hall et al. 2018).

For a woman to cope with the challenges of childbirth, it is important that she is confident in herself. Women with low self-esteem are more likely to exhibit fear of childbirth (Saisto and Halmesmäki 2003). Lack of confidence in one’s ability to manage contractions has been associated with an increased perception of pain (Nilsson and Lundgren 2009). General confidence, and confidence in one’s ability to manage labor are both factors that impact birth experience. The nature of one’s birth experience may impact a woman’s self-confidence postpartum and in the future (Simkin 1991). Women with low self-esteem may be more likely to feel that certain decisions, like receiving an epidural, mean that they will not be a good mother (Jepsen and Keller 2014). A negative birth experience is likely to result in lowered self-esteem, while a positive birth experience is likely to result in high self-esteem (Bryanton et al. 2008).

In one study, De Leon investigated the effects of belly dance in 7 women who reported poor self-confidence resulting from sexual trauma. After a 4-week period, wherein participants were exposed to belly dance twice a week for an hour, participants reported improvement of the sense of confidence. De Leon attributes this development of confidence to the feelings of mastery and accomplishment one gains from engaging in the rhythmic repetition of belly dance and engaging in the practice of self-expression through belly dance (De Leon 2006). Engaging in belly dance itself during pregnancy has also been shown to enhance women’s feelings of self-confidence (Jackson 2015b). Engaging in belly dance in combination with other creative arts activities during pregnancy has also been shown to help women cultivate feelings of self-confidence (Demecs et al. 2011).
Self-efficacy. Self-efficacy is the belief in one’s capability to act and master the necessary skills. In the case of pregnancy, childbirth self-efficacy reflects the mother’s perception of her own ability to manage childbirth. Thus, women with low childbirth self-efficacy may have less assurance in their ability to manage childbirth (Carlsson et al. 2015). Women with high self-efficacy have reported feeling more control during labor and less stress during childbirth. (Carlsson et al. 2015).

Self-efficacy impacts a woman’s pregnancy experience as well, and it impacts anxiety, fear of childbirth, and overall mood (Carlsson et al. 2015). Women who have given birth in the past may have higher self-efficacy. (Carlsson et al. 2015). Women’s sense of control, coping strategies during labor pain, and available choices for pain relief during labor have all been linked to overall childbirth satisfaction.

Guidance, support, and coaching provided by a midwife may also promote feelings of self-efficacy within a birthing mother (Dahlberg et al. 2016). Learning behaviors to cope with labor can additionally contribute to self-efficacy (Salomonsson et al. 2013). Having self-efficacy is may facilitate trust in one’s body and a capacity to “go with the flow” during childbirth (Lundgren 2005). Pelvic rocking has been shown to help increase feelings of childbirth self-efficacy (Gau et al. 2011).

A lack of sense of achievement after birth can contribute to a poor childbirth experience (Hodnett 2002). While not specific to childbirth, belly dance has been shown to improve factors associated with self-efficacy over time. According to Jeri Salkin, the creator of Body-Ego dance therapy technique, rhythmic repetition in dance helps an individual experience a sense of accomplishment and organized control (Salkin and May 1967). Belly dance is a form that has many repetitive shimmies. Therefore, from the perspective of Salkin, engaging in the repetitive
movements in belly dance could help an individual feel a sense of accomplishment and control over one’s body. Therefore, belly dance may inculcate a sense of accomplishment within women.

Belly dance has been shown to cultivate experiences of childbirth self-efficacy and self-efficacy for recovery during postpartum (Jackson 2015a). One study engaged sexual assault survivors in belly dance over a four week period and found that participants reported improved feelings of mastery and accomplishment from participating in the rhythmic repetition of belly dance (De Leon 2006). In a study wherein pregnant individuals engaged in a creative arts program which included belly dance, participation in the program helped women feel competent to give birth and helped nurture feelings of achievement within pregnant women (Demecs et al. 2011).

Feeling in Tune with One’s Body. Although there are studies that have been conducted on belly dance and being in tune with one’s body, an explicit definition of being in tune with one’s body within the literature is lacking.

Being able to trust one’s body is an important component of coping with childbirth for a positive birthing experience. During childbirth, narrative interviews of first-time mothers revealed that trusting one’s body to handle the pain and get through childbirth played an important role in a positive childbirth experience. Women who perceive their body as strong report feeling a sense of power and an ability to trust their body during childbirth (Nilsson et al. 2013). One study found that trusting one's body and facing the pain is one of the elements that seems to influence a positive birth experience (Meyer 2013). A woman must surrender to the control of her mind and body to the physical progression of labor, which she cannot control, thereby following the cues of her own body (Parratt and Fahy 2003).

Belly dance movements are performed in isolation, which means that when moving one region of the body, one keeps the other segments of the body immobile (Moreside et al. 2008). The process of isolation of muscle movements gives women a feeling of comfort and confidence
in their own understand of how their body works (Jackson 2015a). Belly dance in pregnancy has shown to help women experience a connection with their body (Demecs et al. 2011; Jackson 2015b). Belly dance has helps women who feel disconnected from their body due to gendered victimization feel more connected with their bodies. In another study, a woman reported belly dancing was a “nice way of preparing and relaxing and visualizing” for childbirth (Demecs et al. 2011). Belly dance helps women feel more in control of their body. Belly dancers are able to exhibit finely tuned coordinative ability of the abdominal wall (Moreside et al. 2008).

Physical Factors

Prenatal Back Pain. Pelvic girdle and back pain are common symptoms of pregnancy (Kluge et al. 2011). Individuals suffered from chronic lower back pain unrelated to pregnancy have found that engaging in a belly dance program decreases perceived pain levels (Castrillon et al. 2017). Another study found that pelvic rocking exercises helped to decrease low back pain in pregnancy (Elkheshen et al. 2016).

Position During Labor. In childbirth, women are often told to lie down in the hospital bed during labor. However, being in the supine position during labor has been linked to negative clinical outcomes, including a higher rate of instrumental deliveries, episiotomies, vulvar edema, and perennial lacerations of second, third and fourth degree (Jonge and Teunissen 2004; Terry et al. 2006). Despite the clinical data, very little is done to encourage the mother to leave the supine position during labor. Other positions women can take during labor include kneeling, squatting, sitting, or standing. Women often prefer the kneeling position during labor and maintaining the squatting position during childbirth is difficult (GARDOSI et al. 1989). Additionally, clinical interventions, such as labor induction or an epidural, often pose barriers to leaving the hospital bed during labor. The use of non-wireless fetal heart rate monitoring devices throughout labor also
limit movement during labor (Mugyenyi et al. 2017). The use of the peanut ball during labor is one method women can use to avoid the supine position during childbirth. Laboring in the absence of bed confinement is a symbol of empowerment and humanized labor (Souza et al. 2006).

**Pain Management During Childbirth.** One study found that women who underwent epidural anesthesia were less likely to be satisfied with their childbirth experience. The primary reasons for the decrease in reported satisfaction were forceps delivery, a lack of sense of achievement, and experiencing a long and painless labor. The most satisfied women were those who had no pain relief during labor (Hodnett 2002). This conflicting evidence may suggest that relationship between pain relief and childbirth experience is complex. Factors that may influence this relationship include expectations regarding pain relief in childbirth and a mother’s priorities for her birth experience (Camann 2017).

The ways in which women are assisted in coping with pain will affect internal control (Green and Baston 2003). Women who attended LaMaze classes during reported less pain during active labor and were more energetic and less tired at admission (Leventhal et al. 1989). Studies have also indicated that experiencing a high level of pain during birth is one of the factors that makes a birth experience traumatic. Women who reported higher pain levels in childbirth were more likely to suffer from postpartum posttraumatic stress syndrome than those who experienced less pain (Karlsdottir et al. 2018).

Women who plan to not receive pain medications in childbirth, but end up asking for medication, often experience mental defeat. Mental defeat refers to feeling helpless to act to effect the outcome (Ayers 2007). Therefore, women will likely experience decreased feelings of self-efficacy because of this experience. In one study, woman who were instructed to stand upright or tilt, rock, and move their hips around in a circle during labor experience less pain (Abdolahian et al. 2014). Maintaining an upright position rather than a sedentary position during the first stage of
labor helps to improve contractions and decrease labor pain (Souza et al. 2006). Another study found that women who danced for 30 minutes in active labor in combination with listening to music perceived less pain during active labor (Dikmen 2020).

**Length of Labor.** Labor length refers to the duration from the start of labor up until childbirth. Labor length is impacted by many things, including parity, the use of an epidural, age, and weight (Piper et al. 1991; Marshall and Raynor 2014). Prolonged labor increases the likelihood a woman has a negative childbirth experience (Kempe and Vikström-Bolin 2020). The use of pelvic rocking exercises during labor has been shown to facilitate labor progress and reduce labor length (Hassan Zaky 2016a). Participation in aerobic exercise during pregnancy has been reported to shorten the duration of labor (Perales et al. 2016).

**Mode of Delivery.** Mode of delivery impacts labor length and influences birth experiences. Having complications in one’s childbirth increases the likelihood that a woman is unsatisfied with her birth experience. Individuals who had cesarean section or vaginal instrumental delivery had higher somatization, obsessive compulsive, depression, and anxiety symptom levels than those who had natural or vaginal delivery as well as overall general distress, controlling for premorbid mental health, maternal age, education, primiparity, and medical complication in newborn. (Dekel et al. 2019). The level of obstetric intervention experienced during childbirth are consistently associated with the development of acute trauma symptoms. Women who experienced both a high level of obstetric intervention and who are unsatisfied with the care received during labor are at increased risk of developing trauma symptoms. Dissatisfaction with their intrapartum care were more likely to develop trauma (Creedy et al. 2000). A retrospective survey found that a too short labor was commonly attributed as a cause of traumatic birth experience (Hollander et al. 2017). Women who undergo cesarean sections are less satisfied with their birth experience (e.g. Becerra
Pérez et al., 2016). Women who undergo an unplanned emergency cesarean are likely to experience PTSD symptoms (e.g. Becerra Pérez et al., 2016).

**Postnatal Pelvic Floor Damage.** The pelvic floor muscles experience extensive stretching during pregnancy and childbirth, which results in pelvic floor damage childbirth (Oliveira et al. 2016). One study explored the effect belly dance has on the development of pelvic floor strength. Fourteen healthy women practiced belly dance for one (1) hour every week for ten (10) weeks. The study found that engaging in belly dance practice resulted in significant increases in pelvic floor strength. Belly dance does not involve the voluntary contraction of the pelvic floor in movement execution, but involves the contraction of adjacent muscles such as the large gluteal, abdominals and abductor muscles. These contractions contribute to a development of increased strength of the pelvic floor musculature (Pedroti et al. 2010).

Urinary incontinence during the postpartum period is common. This urinary incontinence results from the physical trauma the pelvic floor muscles undergo during childbirth (Memon and Handa 2013). Engaging in pelvic floor muscle training exercise has shown to improve urinary incontinence postpartum (Mørkved and Bø 2014). In a study by So-Young An and colleagues, belly dance was found to increase urinary incontinence-related muscle strength and improve urinary incontinence symptoms in middle-aged women (An et al. 2017).

**Psychological Factors**

**Stress.** Stress is a common occurrence during the perinatal period. Diurnal cortisol levels have shown to be significantly lower in competitive ballroom dancers. Despite having higher levels of IL-6 are also present in dancers, competitive ballroom dancers appeared to show hypoactivity in their stress systems (Berndt et al. 2012). Dance training has been shown to decrease cortisol levels (Vrinceanu et al. 2019). One study measured the salivary cortisol levels of 19 women after participating in a belly dance class. The study found that participation in belly dance...
classes for more than four years for three or more hours a week results in a significant decrease in salivary cortisol levels. Significant decreases in salivary cortisol levels was also observed in participants with fewer than four years of experience and who practice belly dance fewer than three hours a week. The study suggests that practicing belly dance overtime may decrease salivary cortisol levels (Barcarolo et al. 2017).

Stress has been shown to induce muscle stiffness (Van Loon et al. 2001). By learning shoulder and hip shimmies, one learns to execute relaxed fluid vibrations associated with the release of tension and enjoyment, and one lets go of the anxious tension associated with the stiff vibration of shoulder and hip movement (De Leon 2006). Women who engaged in belly dance during pregnancy have reported belly dance helps them feel more relaxed (Demecs et al. 2011).

**Body Image.** Body image has been defined as a person’s perceptions, thoughts, and feelings about his or her body (Grogan 2016). Many women experience weight-related distress after childbirth (Walker 1998). Many women experience societal pressure to quickly lose pregnancy-related weight gains after childbirth. Social comparison behavior wherein one compares their own post-pregnancy body against the post-pregnancy bodies of celebrities has shown to be detrimental to an individual’s body image. Although a handful of studies have been conducted on belly dance and body image, an explicit definition of body image within the belly dance literature is lacking (Chae 2014).

In one study, questionnaires measuring positive body image, body dissatisfaction, self-objectification, and enjoyment of sexualization were administered to 213 women, roughly half of which were belly dancers recruited from two belly dance schools. The non-dancing cohort surveys were collected in a sample of college students. The belly dance students scored higher in the category associated with positive body image and lower in the categories associated with body
dissatisfaction and self-objectification (Tiggemann et al. 2014). This study provides preliminary evidence that belly dance may benefit women who struggle with body acceptance.

Women who belly dance in pregnancy have reported feeling more accepting of their body (Demecs et al. 2011). A case study conducted with a burn victim who practiced belly dance discovered that the burn victim found the confidence and courage to show their scars through belly dance practice. This new-found confidence enriched many aspects of the participant’s life, and it helped her cope with the diminished value she experienced in society as a result of her injury. The participant had limited marital prospects as the result of her injury. However, through belly dance the participant gained the confidence to work hard in her professional life, which led her to achieve professional goals and supported life satisfaction (Popp and Yen 2012). Belly dance has also been shown to improve the self-image of fibromyalgia patients (A.S. et al. 2012).

Fatigue. Fatigue is a commonly experienced by mothers during the perinatal period (Cheng et al. 2015). Women also experience high levels of childbirth-related fatigue during and after childbirth. Belly dancers may have a robust capacity to handle adrenal fatigue as a result of repeated practice bouts during dance training exposures (Switzer 2017).

Depression. Depression during the perinatal period, both prenatal and postnatal period is a common experience for many women after childbirth (Dossett 2008). Belly dance has been shown to help depression symptoms unrelated to pregnancy. A study conducted on eighty female patients with a fibromyalgia diagnosis found that participation in a belly dance class for 16 weeks twice a week improved the mental health of the participants (A.S. et al. 2012).

Psychosocial Factors

Social Support. Adequate social support through friendships plays an important role in a woman’s birth experience. Women who lack social support are more likely to experience antenatal depression and anxiety symptoms (Agostini et al. 2015). A mother’s emotional wellbeing during
pregnancy plays a role in obstetric outcomes and infant and fetal development (Agostini et al. 2015). Social support plays an important role in overall pregnancy experience. Engaging in a group activity is a way for a mother to develop social connections and foster a supportive community of parents. Engaging in prenatal group activities present opportunities for women to develop friendships with other pregnant women. During childbirth, some women bring their friends as their social support team. Fear of being left alone during childbirth is a common fear a woman may experience in pregnancy. Women with poor social networks may facilitate meaningful social connections in a prenatal group class in order to gain social support and not be alone during birth.

Attending a belly dance class can help women cultivate relationships and experience feelings of sisterhood. According to Sue Carter, because dance is an extremely relational activity, it stimulates the release of oxytocin in the general population, however, this phenomenon has not been researched in pregnant woman specifically, nor belly dance specifically (Homann 2017).

Ethnographic research on American women’s experiences in belly dance has identified five themes associated with the experiences and female belly dancers in America. The first theme is discovery of oneself and the dance. The second theme is healing from illness, injury, and victimization. The third theme was spirituality, which referred to connectivity to each other, a higher power, and the divine feminine. The fourth theme that emerged from the data was sisterhood, which refers to community amongst women. The fifth theme that emerged from the data was empowerment, which refers to the omnipresent sense of pride and self-confidence. These results of this study add further dimension to, and perhaps conflict with, the notion that belly dance is purely a dance intended to sexually objectify women (Moe 2008).

Another clinical study conducted at the National Institute of Oncology in Budapest found that the outpatients who engaged in belly dance reported higher levels of social support (Mirzakhani et al. 2015).
Social Norms. Upon giving birth, many women experience a loss of their past identity, as they adopt a new identity as a mother. Adopting a new social identity as a mother can cause stress for many women (Larkin et al. 2009; Miller and Shriver 2012). Belly dance may be practiced as a form of resistance to the social and cultural norms of women (Moe 2012). When becoming a mother, women adopt a new identity, which comes with a new set of societal expectations. Mothers may use belly dance to reject societal pressures associated with motherhood (Moe 2011).

Nonmedical Social Support during Childbirth. The non-medical support present during childbirth plays an influential role in a mother’s birth experience as well. The non-medical support often consists of a singular birth companion, usually the father of the child, but may also be another family member, friend, a doula, or combination of individuals (Hodnett et al. 2013; Junges et al. 2018). An analysis of the types of birth companions revealed that the presence of a female birth companion may lead to a more positive birth experience (Rosen 2004). An analysis of women’s experience of continuous support during childbirth suggests that women often value the support of a doula, an individual trained in childbirth support who is often female, more than the support of their spouse or partner during childbirth (Lunda et al. 2018). A romantic partner or husband is present at the majority of childbirths in the United States (Rosen 2004).

The nature of a woman’s relationship with her birth companion can influence birth experience, as women with insecure attachment styles in relation to their partner may report experiencing higher levels of pain relative to women with secure attachment styles to their partner (Wilson, 2016)

The role of the non-medical support staff is to provide continuous physical, emotional, and informational support to the mother during and immediately after childbirth. Physical support may include support in walking, comforting the mother with touch, assisting her in birthing ball use,
helping her change positions, or massage (Junges, 2018; Rosen, 2004). Emotional support may include offering her praise, encouragement, or reassurance (Rosen, 2004). Informational support includes advocating for the mother and offering informed opinions in medical decisions (Junges, 2018).
CONCEPTUAL FRAMEWORK

A critical review of the literature revealed seven potential pathways that show how belly dance may improve experiences in pregnancy, childbirth, and the postnatal period. These pathways included: (1) increased bodily awareness, (2) decreased back pain, (3) decreased labor pain, (4) increased childbirth self-efficacy, (5) decreased fear of childbirth, (6) reduced labor length (7) increased social support, (8) improved body image, (9) increased ability to reject societal pressure regarding motherhood, (10) improved urinary incontinence symptoms, and (11) improved uterine prolapse symptoms. Figure 1 illustrates the various outcome measures and their relationship to belly dance, pelvic floor muscle training, and pelvic rocking, specifically.

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**Figure 1. Conceptual Framework of Belly Dance and ChildBirth**

Note: Various pathways in which bellydance may influence pregnancy, birth experience, and the postpartum period

*Increased Body Awareness*

Two qualitative reports showed that exposures to belly dance helped individuals feel more in tune with their bodies. In a 2015 study, Jackson investigated the effects of belly dance in
pregnancy through a phenomenological means of exploration. Upon analysis of the data, which was obtained through semi-structured interviews of two pregnant belly dancing participants, one theme that emerged was, “in tune and able.” Participants said that learning to belly dance helped participants understand mechanisms through which their body worked. The participants also said that the development of this understanding helped them gain a sense of confidence in their own capabilities, including the capability to cope with childbirth and postpartum recovery. Participants felt the process of learning the dance offered their bodies the strength to recover (Jackson 2015b).

In another study by Pappne Demecs and colleagues, 7 pregnant women participated in six 2-hour long creative arts classes. The creative arts activities included singing, belly dance, and weaving something for their baby. Women reported engaging in belly dance in a shared space with other women helped enhance feel more in tune with their bodies (Demecs et al. 2011). Though the available research offers some evidence that belly dance promotes body awareness, few reports appear to have explored this phenomenon in the context of belly dance and pregnancy.

**Decreased Back Pain**

Evidence shows that exposure to pelvic rocking exercise during the prenatal period is inversely associated with decreases in back pain. In a study by Sahar Elkheshen and colleagues, 50 pregnant women with back pain received pelvic rocking exercise instruction twice a week for 30-40 minutes for two months, while the control group was not instructed pelvic rocking exercise. Women in the pelvic rocking exercise group reported decreased back pain at the end of the two month period when compared with the control group (Elkeshen et al. 2016).

In a study by Tabitha Castrillon and colleagues, 2 women with chronic low back pain engaged in 6 weeklong belly dance program. At the end of the 6 week period, both women reported improvements in the severity of back pain (Castrillon et al. 2017).
In conclusion, preliminary evidence suggests that belly dance during pregnancy may help improve back pain in pregnancy. However, additional studies on belly dance in pregnancy are needed to confirm this phenomenon.

*Decreased Labor Pain*

Evidence shows that exposure to dance with pelvic rocking during active labor is inversely associated with labor pain. In a study by Somayeh Abholahian and colleagues, 30 women engaged in a minimum of 30 minutes of dance, which involved pelvic rocking, during the active labor phase. The study found that engaging in the dance resulted in decreased the intensity of labor pain (Abdolahian et al. 2014).

In a study by İlknur Münevver Gönenç and colleagues, 33 nulliparous women with singleton pregnancies were instructed to engage in a dance for 30 minutes during active labor, while listening to music. The fundamental dance movements of the dance were pelvic rocking, circular movements of the pelvis and waist, semi-squatting, and moving the body dance pelvis towards the left and right. The cohort of women who danced to music during active labor reported experiencing less pain than the control (Dikmen 2020).

*Self-Efficacy*

Evidence suggests that exposure to belly dance may facilitate feelings of self-efficacy. De Leon investigated the effects of belly dance in 7 women who reported poor self-confidence resulting from sexual trauma. After an 4-week period, wherein participants were exposed to belly dance twice a week for an hour, participants reported improvement of the sense of confidence (De Leon 2006).
A study conducted by Meei-Ling Gau and colleagues, 94 women performed pelvic rocking exercises during childbirth with the assistance of the birthing ball tool and 94 women labor in the hospital in a standard method. The study found that those who performed pelvic rocking during childbirth exhibited a significant decrease in paid during labor (Yan et al. 2014).

In a qualitative study by Ilona Pappne Demecs and colleagues, 7 pregnant women participated in six 2-hour long creative arts classes. The creative arts activities included singing, belly dance, and weaving something for their baby. Women reported engaging in belly dance in a shared space with other women helped enhance feelings of self-confidence.

In conclusion, preliminary evidence suggests that belly dance may increase childbirth self-efficacy. However, only one study has been conducted, and additional studies are needed to confirm this phenomenon in relation to belly dance.

*Fear of childbirth*

Evidence suggests that exposure to belly dance may reduce fear of childbirth. In a study by İlknur Münevver Gö nec and Hacer Dikmen, 93 women participated in a study wherein the women were assigned to one of three groups, dance and music, music alone, and standard care during labor. The study found that the group engaging in a combination of dance, which included pelvic rocking, during childbirth and music exhibited significantly less fear during the active phase of labor. Women who engaged in dance with movement during childbirth exhibited less fear in childbirth (Dikmen 2020).

This article shows that engaging in dance which includes pelvic rocking, a action in belly dance, during labor helps women reduce childbirth related fears. Additional research is needed to understand if belly dance has the same effect on fear of childbirth during labor.
In conclusion, preliminary evidence suggests that belly dance may reduce fear of childbirth. However, only one study has been conducted, and additional studies are needed to confirm this phenomenon.

**Labor Length**

Evidence suggests that exposure to belly dance may reduce labor length. In a study conducted by Nevertity Hassan Zaky and colleagues, 40 women experiencing singleton pregnancies were taught pelvic rocking. The use of pelvic rocking exercises with a birthing ball during the latent phase of labor. The experimental group was encouraged to perform pelvic rocking for 5-10 minutes every hour during active labor. Women receiving the pelvic rocking intervention experienced shorter labors than the control group (Hassan Zaky 2016a). In conclusion, preliminary evidence suggests that belly dance may reduce length. However, only one study has been conducted, to confirm this phenomenon.

**Body Image**

Evidence suggests belly dance exposure improves body image. De Leon investigated the effects of belly dance in 7 women who reported negative body image resulting from sexual trauma. After an 4-week period, wherein participants were exposed to belly dance twice a week for an hour, participants reported improvement of the sense of body image (De Leon 2006).

In a study by Marika Tiggemann and colleagues, 112 belly dancers recruited from belly dance schools and 101 undergraduate student unexposed to belly dance were administered a survey on body image. Women in the belly dancing cohort reported a higher sense of body image and a decreased sense of body dissatisfaction when compared to the control group (Tiggemann et al. 2014).
In a study by Ashley Popp and Chia-Ju Yen, and colleagues, case studies were conducted with a 50-year-old female victim of facial burn. The participant reported that belly dancing helped her regain satisfaction in her body image after her facial injury. Participant felt that performing in revealing belly dance costumes helped her to heal her injured body image and helped her to accept her body deformities. The participant had been practicing belly dance for over 30 years. Therefore, this case study suggests belly dance may help to improve body satisfaction (Popp and Yen 2012).

Jackson investigated the effects of belly dance in pregnancy through a phenomenological means of exploration. Upon analysis of the data, which was obtained through semi-structured interviews of the pregnant belly dancing participants, one theme that emerged was, “pride and joy.” In the context of the study, pride referred to participants ability to let go of feelings of self-consciousness and dance freely through belly dance. Participants said the pressures no not confirm to a specific style of belly dance helped them develop the ability to let go of self-consciousness. Participants said through this practice, they were able to develop a more positive body image of themselves as a woman, by feeling more confident, beautiful, graceful, and feminine through the dance (Jackson 2015a).

*Increased Social Support*

Evidence suggests that belly dance exposure helps mothers reject the societal pressures associated with motherhood. Angela Moe investigated the effects of belly dance in 67 women through analysis on semi-structured interviews through a phenomenological approach. Moe found that learning belly dance helped women reject the societal pressures associated with motherhood. Engaging in the dance also help mothers feel less harsh on themselves in meeting societal expectations for mothers (Moe 2014b).
There are articles that show that female-oriented belly dance groups provide a help women reject societal pressures associated with identifying as a mother within society. Additional research is needed to understand the implications of the ability to reject these societal pressures in the lives of mothers.

Evidence suggests belly dance exposure may increase a mother’s social support postpartum. Imogen Jackson investigated the effects of belly dance in pregnancy through a phenomenological means of exploration. Upon analysis of the data, which was obtained through semi-structured interviews of the pregnant belly dancing participants, one theme that emerged was, “connecting with others.” Participants said that learning to belly dance with other women helped them feel connected to other women and find a place of belonging in this group of women. The participants also said that the development of this understanding helped them gain a sense of confidence in their own capabilities, including the capability to cope with childbirth and postpartum recovery (Jackson 2015a).

Angela Moe investigated the effects of belly dance in 67 women through analysis on semi-structures interview through a phenomenological approach. Move found that learning belly dance helped women gain a sense of social support, which helped the mothers cope with the transition to motherhood (Moe 2014b).

There are articles that show that female-oriented belly dance groups provide a network of social support to women in pregnancy and after pregnancy. Additional research is needed to understand if the benefits received from this social support is significant.

_Uterine Prolapse_

Evidence suggests belly dance exposure may help improve postpartum pelvic organ prolapse. In a study by Suzanne Hagen and colleagues, the effects of Pelvic Floor Muscle training
in 225 women newly diagnosed with pelvic organ prolapse was investigated. The women in the intervention group attended five (5) one-on-one pelvic floor training sessions over a 16-week period. Women in the intervention group experienced a significant improvement of prolapse symptoms in comparison to the control group.

In a study conducted by Liliana Stupp and colleagues, the effects of Pelvic Floor Muscle training in 21 women with pelvic organ prolapse was assessed. The women attended seven pelvic floor training sessions of a 14-week period. The women in the intervention group attended 7 one-on-one pelvic floor training sessions over a 14-week period. Women in the intervention group experienced a significant improvement in prolapse treatment in comparison to the control group.

Urinary Incontinence

Evidence suggests belly dance exposure may help improve urinary incontinence in pregnancy and postpartum. In a study by Siv Morkven An and colleagues, 148 women attended a 12-week intensive pelvic floor muscle training program during pregnancy. The women who engaged in pelvic floor muscle training during pregnancy experience significantly less urinary incontinence during pregnancy and postpartum in comparison to the control group.

In a study by So-Young An and colleagues, 12 middle-aged diagnosed with urinary incontinence underwent a 12-week long belly dance program focusing on pelvic movement. Women in the experimental group experienced a significant decrease in urinary incontinence symptoms during pregnancy and postpartum while women in the control group experienced no decrease in urinary incontinence symptoms.

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<tr>
<td>Gönenç &amp; Dikmen</td>
<td>2020</td>
<td>30 women in active labor</td>
<td>Dance with pelvic rocking, circular movements of the pelvis and waist, semi-squatting, and moving the body dance pelvis towards the left and right</td>
<td>NR</td>
<td>30 minutes</td>
<td></td>
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<tr>
<td>Zaky</td>
<td>2016</td>
<td>40 women in active labor</td>
<td>Pelvic rocking intervention</td>
<td>NR</td>
<td>5-10 minutes every hour during active labor</td>
<td></td>
</tr>
<tr>
<td>Hagen</td>
<td>2014</td>
<td>225 women with pelvic organ prolapse</td>
<td>Pelvic Floor Muscle Training</td>
<td>NR</td>
<td>5 1 on 1 sessions over a 16-week period</td>
<td></td>
</tr>
<tr>
<td>Stupp</td>
<td>2011</td>
<td>21 women</td>
<td>Pelvic Floor muscle Training</td>
<td>NR</td>
<td>7 sessions over a 14-week period</td>
<td></td>
</tr>
<tr>
<td>De Leon</td>
<td>2006</td>
<td>7 female survivors of sexual trauma</td>
<td>Belly Dance</td>
<td>NR</td>
<td>4-week period Twice a week for an hour</td>
<td></td>
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<tr>
<td>Tiggerman</td>
<td>2014</td>
<td>112 belly dancers-belly dance school</td>
<td>Belly Dance</td>
<td>NR</td>
<td>NR</td>
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<tr>
<td>Popp &amp; Yen</td>
<td>2012</td>
<td>1</td>
<td>Belly Dance</td>
<td>NR</td>
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<tr>
<td>Jackson</td>
<td>2013</td>
<td>2 pregnant women-belly dance students</td>
<td>Belly Dance</td>
<td>NR</td>
<td>NR</td>
<td></td>
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<tr>
<td>Moe</td>
<td>2014</td>
<td>67 women who belly dance</td>
<td>Belly dance</td>
<td>NR</td>
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<td>Moe</td>
<td>2014</td>
<td>67 women who belly dance</td>
<td>Belly dance</td>
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<td>Pressures of Motherhood Increase social support</td>
<td>Jackson 2013</td>
<td>2 pregnant women - belly dance students</td>
<td>NR</td>
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<td>Moe 2014</td>
<td>67 women who belly dance</td>
<td>Belly dance</td>
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DISCUSSION

Belly Dance has many potential benefits for pregnancy, childbirth and postpartum. Further research is necessary to confirm the potential benefits outlined within the conceptual framework of this paper.

Urinary continence is common in pregnancy and postpartum because of changes experienced by the pelvic floor. Evidence suggests that exposure to belly dance may help individuals improve urinary incontinence in pregnancy and postpartum. This effect means that belly dance should be presented as an option for women to improve urinary incontinence symptoms during the pregnancy and postpartum. Other studies suggest that other forms of pelvic floor exercise, like kegels, are especially helpful in reducing urinary incontinence symptoms (K. 2016). Clinical trials should be conducted to assess if belly dance classes are a viable treatment option of women at risk of developing urinary incontinence in pregnancy and postpartum.

Feeling connected to one’s body can have a positive benefit on one’s childbirth experience. Evidence suggests that exposure to belly dance may help individuals feel more in tune with their bodies. Therefore, women struggling to feel connected with their bodies should consider learning belly dance. Mindfulness, which may include one being more mindful of bodily sensations, has also shown to be beneficial for relaxation and preparing for childbirth (Duncan et al. 2017). The Tourné psychosomatic approach, which focuses on body awareness sensations has also been used to prepare women for childbirth and helped to reduce depressive symptoms and preterm childbirth (Ortiz Collado et al. 2014). These findings suggest that clinical trial with belly dance should be conducted in order to see if belly dance helps bodily awareness for childbirth in a clinically significant manner.
Back pain is common in pregnancy. Evidence suggests that exposure to belly dance may help alleviate prenatal back pain because of the pelvic rocking component of belly dance. Therefore, belly dance should be encouraged for management of prenatal back pain. Pelvic rocking movements engages the abdominal muscles, and abdominal muscle strengthening exercises have shown to help improve non-specific chronic low back pain (Gordon and Bloxham 2016). Further research needs to be conducted on the role of abdominal strengthening in belly dance on the alleviation of prenatal back pain.

The pain experienced in labor is quite severe and is often treated with anesthetics. Evidence suggests that exposure to belly dance may help alleviate labor pain because of the pelvic rocking component of belly dance. Therefore, belly dance should be encouraged for management of labor pain. Additional studies suggest that physical activity may help women manage labor pain better (Guszkowska 2014). Therefore, further research should be conducted on how physical activity, including belly dance may help reduce labor pain. Belly dance includes anteroposterior pelvic rocking, and belly dance also includes lateral pelvic rocking and other types of pelvic rocking. The benefits of variations or adaptations of the traditional pelvic rocking movement for childbirth pain should be explored.

Self-efficacy is a critical component of a positive birth experience. Evidence suggests that exposure to belly dance may help increase childbirth self-efficacy because of the pelvic rocking component of belly dance. Therefore, belly dance should be encouraged for coping with childbirth during labor. Additional studies suggest that self-efficacy and physical function are positively associated in older adults, as engaging in Tai Chi has shown to increase the perception of physical capability in older adults (Li et al. 2001). Further research should be conducted into belly dance’s ability to improve the perceived physical function of pregnant women.
Fearing childbirth reduced the likelihood of a positive birth experience. Evidence suggests that exposure to belly dance may help decrease childbirth related fear because of the pelvic rocking component of belly dance. Therefore, women who express fear of childbirth should be encouraged to learn pelvic rocking as a coping mechanism during labor. Another study suggests that engaging in mantra repetition helps to decrease childbirth fear (Hunter et al. 2011). The use of repetition during labor to reduce fear and cope should be explored. Furthermore, additional research should be conducted on the efficacy of belly dance in reducing childbirth related fear.

Social support is an important for mental health in pregnancy. Evidence suggests that exposure to belly dance may help increase social support during the postnatal period, as belly dance classes provide a means for women to meet and maintain relationships, and belly dance classes often feel a sense of sisterhood within belly dance classes. Therefore, women experiencing feelings of loneliness and isolation during the postnatal period should consider attending belly dance classes.

The body experiences physical change during pregnancy and the postpartum period. Evidence suggests that exposure to belly dance may help improve body acceptance during the postnatal period. Additional studies suggest that body image in pregnancy may be related to health habit-related strength (Pullmer et al. 2018). Exercise prescriptions of attending belly dance classes regularly for positive body image in pregnancy should be further explored. In addition, women who experience strong dissatisfaction with their bodies should consider belly dancing as a method to become more accepting of their bodies.

Pressures associated with motherhood can often be a source of stress for new mothers. Evidence suggests that exposure to belly dance may help women reject societal pressures
associated with motherhood. Therefore, women concerned with dealing with the pressures of motherhood should consider trying belly dance to reject and overcome these societal pressures. Studies suggest that adapting a feminist mothering may be beneficial for non-traditional mothers (Pedersen 2016). The influence of activities that include feminine empowerment, like belly dance, and ability to reject pressures related to motherhood should be further explored in research.

Childbirth increases the likelihood a woman experiences pelvic organ prolapse. Evidence suggests that exposure to belly dance may help individuals improve postnatal depression symptoms. This effect means that belly dance should be presented as an option for women to improve depression symptoms during the postnatal period. Studies show that that a measurable difference in tissue elasticity of the levator ani is observed after an individual performs kegel exercises, which are another form of pelvic floor muscle training (Xie et al. 2018). Therefore, future studies should be conducted exploring the impact of belly dance on the elasticity of the pelvic floor muscles.

One of the limitations of this conceptual framework is that the creation of the conceptual framework is based on a select few studies, as the available literature associated with belly dance and birth is limited. These studies likely have limitations as well. Some of the studies included within the conceptual framework were qualitative studies, from which generalizable conclusions may not be made, in contrast to quantitative studies. Furthermore, much of the literature used in the conceptual framework did not use studies that specifically incorporate belly dance training within their methods. Instead these studies implemented aspects of belly dance, such as anaerobic physical activity and pelvic rocking, which were isolated and applied to the conceptual framework. Further quantitative research on the use of on the use of belly dance in a comprehensive manner,
rather than isolated aspects, are necessary to further support the conclusions made within this study.

There are many strengths of this conceptual framework. The literature review conducted to make the conceptual framework was very comprehensive, as 221 articles were read. The criteria for outcome measures to be included in the conceptual framework was stringent. Pelvic rocking and pelvic floor muscle training, which were pathways through which belly dancing was connected to outcome measures, are well researched forms of physical activities in primary literature. Other articles included in this conceptual framework were research that included belly dance specifically. The use of stringent criteria helps to further support the plausibility of the claims made in the conceptual framework.

In conclusion, bodily awareness, back pain, labor pain, childbirth self-efficacy, decreased fear of childbirth, labor length, social support, body image, ability to reject societal pressure regarding motherhood, improved urinary incontinence symptoms, and uterine prolapse symptoms are outcome measures that may be influenced by belly dancing in a positive manner. Pelvic floor muscle training and pelvic rocking are further research is warranted to explore whether or not belly dance influences these outcomes in a positive manner.
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