

SOUL LINE DANCING AMONG AFRICAN AMERICAN WOMEN IN THE
CHURCH: AN EXPECTANCY-VALUE MODEL APPROACH

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Guided by the expectancy value model of achievement choice, this study examined the relationships among expectancy value constructs (expectancy related beliefs and subjective task values), effort and intention for future participation in a culturally specific dance, soul line, among African American adult women in the church setting. Participants were 100 African American women who were members of the women's ministries from four predominantly African American churches in the Dallas/Ft. Worth metropolitan area. Participants completed a 20-minute soul line session and responded to survey questions, validated in previous research, assessing their expectancy-related beliefs, subjective task values, effort, intention for future participation and physical activity. This was the first study to use the expectancy value model as a guide to determine motivations attached to physical activities among African American adult women. Usefulness, a component of subjective task values, emerged as a predictor of intention for future participation. Eighty-one percent of the women did not meet physical activity guidelines for aerobic activity. Of those inactive women 60% indicated an interest in doing soul line dancing often at their church after one short exposure to the activity as indicated by the strongest possible response to both intention questions. A slightly smaller percent of the active women provided with a strong positive response for future intention. These findings suggest that soul line dancing is a practical avenue to increase physical activity among African American women in the church. Future research should test this theoretical model on a wider variety of individuals who

are sedentary to physically active, measure actual participation, and directly measure BMI and physical activity.

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SOUL LINE DANCING AMONG AFRICAN AMERICAN WOMEN IN THE CHURCH: AN EXPECTANCY-VALUE MODEL APPROACH

Introduction

Background

Regular exercise is beneficial for overall mental health, physical health, and cognitive function across the lifespan (Inzitari, Greenlee, Hess, Perera, & Studenski, 2009; Stroth, Hille, Spitzer, & Reinhardt, 2009). Lack of physical activity can contribute to having a high body mass index (BMI) (Yanek, Becker, Moy, Gittelsohn & Koffman, 2001), a clinical measurement classifying adult weight status and its impact on health outcomes. The physical activity guidelines recommend all adults to accumulate at least 2.5 hours a week of moderate intensity aerobic physical activity, or 75 minutes of vigorous physical activity (US Department of Health and Human Services [USDHHS], 2008). However, even with the known physical and mental health benefits of a physically active lifestyle, only 40% of the entire US population engages in enough activity to derive health benefits (Izquierdo-Porrera, Powell, Reiner & Fontaine, 2002) and 66% have a high BMI classifying them as overweight or obese. More specifically, only 40% of the entire African American population is meeting that guideline with 33% reporting no leisure activity at all (Bopp et al., 2009) and 79.6% of women, in particular, are considered obese (Williamson & Kautz, 2009). Murrock and Gary (2008) suggest culturally specific dances, which are dances that serve purposes related to traditional practices, cultural transmission and social acceptance, are important to African American women. Step and dance activities have been reported as preferred exercise activities among African American females (Boyington et al., 2008) however, several factors exist when it comes to participating in these physical activities (Ainsworth,

Wilcox, Thompson, Richter & Henderson, 2003; Peterson, 2011). The location of the activity is an important factor for adherence to an exercise program (Izquierdo-Porrera et al., 2002) as are convenient and affordable exercise facilities, assistance with child care, and peer and family support (Peterson, 2011). The church, a place where African American women frequently convene, is a location that has potential to increase physical activity (Murrock & Gary, 2010; Pfeiffer et al., 2011; Strawbridge, Shema, Cohen & Kaplan, 2001). Perhaps if the enjoyment level of the activity is sufficient, and the location convenient and supportive, African American women would be motivated to focus on the activity and not the perceived barriers. Considering the current lack of physical activity and obesity statistics among African American women, it is important to investigate the motivational factors in this population. One approach is using the expectancy-value model.

Expectancy-Value Model of Achievement Choice

The expectancy-value model of achievement choice has been widely utilized in the sport and physical activity fields (Eccles et al., 1983). This model uses social cognitive theory to explain the motivational factors used to make decisions; it has been a very useful theoretical framework to understand individuals' achievement behaviors in physical activity domains (Eccles et al., 1983; Gao, 2008; Gao, Kosma, & Harrison, 2009; Gao, Lee, & Harrison, 2008; Gu, Solmon, Zhang, & Xiang, 2011). There are two major determinants in this model: expectancy-related beliefs and subjective task values. According to previous studies, expectancy-related beliefs predict an individual's achievement performance and the amount of effort exerted, whereas subjective task values predict both an individual's actual and anticipated task choices and engagement

in sport and physical activities (Gao, 2008; Gao et al., 2009; Gao et al., 2008). See Figure 1.

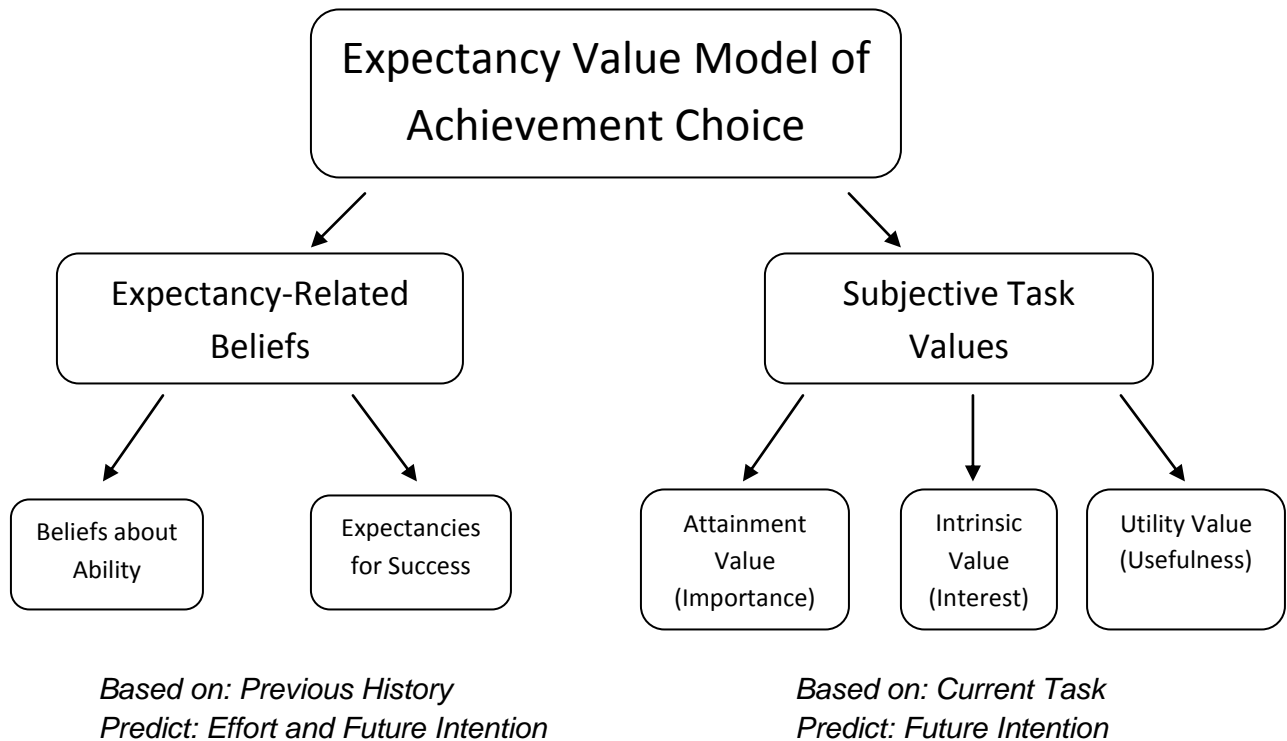


Figure 1. Expectancy-value model of achievement choice.

Expectancy-related beliefs. Expectancy-related beliefs result from two components: beliefs about ability and expectancies for success. Beliefs about ability are defined as an individual's evaluations of their competence in different achievement tasks. Expectancies for success refer to an individual's beliefs about how well they will do on a future task and are closely related to their beliefs about ability (Eccles et al., 1983; Gao, 2008). Expectancies for success answers questions related to self-ability (e.g., can I do the task at hand?) and difficulty of the task (e.g., is this task too complex for me to complete it?). As a major construct for motivation, expectancy-related beliefs directly influence decisions individuals make about whether or not they will choose to participate in a task or continue to engage in the task following failure. Individuals who

value an activity and expect to experience success are more likely to choose to engage in that activity. This was evident in a study by Gao (2008) with a college-level beginner weight training class. After the 16-week class, students' intention for future participation in weight training was predicted by their expectancy-related beliefs, as well as other factors. In another study on group exercise classes among female college students (Gu et al., 2011), the results revealed that the beliefs about ability were the primary predictor of participants' attendance in group exercise classes. These results reinforce the notion that individuals engage and participate in activities in which they believe they are competent (Gu et al., 2011).

Subjective task values. According to expectancy-value model of achievement choice, task values are defined as incentives for engaging in different activities. Task values are a multidimensional construct comprised of four parts: attainment value (importance; the amount of importance one places on doing well in an activity), intrinsic value (interest; the immediate enjoyment gained from an activity), utility value (usefulness; how useful an activity is viewed for reaching one's goals or for other areas in one's life), and cost (what has to be given up in order to participate in the activity). In the study about female college students who attended group exercise classes, the students' choice of exercise was positively related to not only expectancy-related beliefs, but also subjective task values: importance, interest and usefulness (Gu et al., 2011). Expectancy-related beliefs were related to their class attendance whereas the task values related to their class of choice. In another study on elementary school children involved in a running program (Xiang, McBride & Bruene, 2004), the results from the 1-mile running test revealed that the perceptions of how good they were at

running and how well they expected to perform in the running program strongly predicted their future participation, which reinforces the notion that personal interest, as well as expectancy-related beliefs, are important sources of motivation. Based on the results of these studies, it is suggested that more intrinsic aspects of task values (importance and interest) predict an individual's engagement in an activity.

The type of activity is also very important when predicting activity engagement. Motivation to participate can depend on the content being taught and how it is taught (Chen, Martin, Ennis & Sun, 2008). Content domains can be defined in reference to distinct units within a discipline (Chen et al., 2008). They make up the unique, specific, differences within certain types of activities such as running events and field events within the track and field domain or choreographed dance and free-style in the aerobic dance domain. Depending on the content specificity, participants' motivation toward the activity may increase or decrease.

African American Culture

Cultural dance. Dance has a historical connection in the African American community and certain dances can be traced back to pre-emancipation and Africa (Hazzard-Gordon, 1985). Dancing is learned during childhood from family members, friends and in social environments such as the school yard or house party where there is a fun, light atmosphere. Murrock and Gary (2008) suggest that these culturally specific dances are important to African American women because they serve purposes related to traditional practices, cultural transmission and social acceptance. These dances provide social contact and companionship for women since they can be done without a partner.

However, within the domain of culturally specific dance, there are uniquely different styles of dance that could serve as barriers or motivators to engaging in the activity. For instance, praise dancing in the church, line dancing, or stepping can all be considered culturally specific dances in the African American community but are all very different and may not appeal to every African American woman. The benefit of these types of dances, though, is they do not require much equipment or expense, and can be performed in a variety of settings, making them more appealing to a wide range of individuals (Keough, Kilding, Pidgeon, Ashley & Gillis, 2009). Line dancing is a form of low-impact aerobic exercise, especially for those seeking variety (Gordon, Overend, & Vandervoort, 2001). It consists of a series of songs with choreographed dance steps separated by short pauses to change music and announce the next dance steps. It can be altered to match the age, health status, and musical preference of participants without reducing the physiological or psychological benefits (Gordon et al., 2001; Murrock & Gary, 2008). Exercise intensity can also be increased or decreased depending on the music tempo and body movements (Gordon et al., 2001).

In the African American community, an urban inspired edition of line dancing entitled “soul line” exists to incorporate rhythm & blues (R & B), jazz, pop and hip-hop with associated dance moves. This style of dancing comes from Philadelphia-style stroll dances mixed in with little soft shoe style tap steps and much attitude. Soul line dates back to the mid-20th century with the creation of “The Hustle” and the “Harlem Shuffle” to the 21st century with “The Cha Cha Slide” and the “The Cupid Shuffle.” In the African American culture, soul line dances are often performed in groups during festive occasions such as family reunions and wedding receptions. They provide a sense of

unity within a group with no competition. The steps are relatively easy to learn and people of all ages can participate. Murrock, Higgins & Killion (2009) conducted a low impact dance intervention which consisted of choreographed dance routines to gospel music that was used each session (2 evenings a week for 12 weeks, for a total of 24 classes). The women reported support, acceptance and enjoyment to be the most important benefits of dancing in the groups, which resulted in lower BMI and decreased body fat.

Church in the culture. In the United States, church attendance is very common (Pfeiffer et al., 2011) and has been suggested as a location to help improve the health of African Americans, and weight loss in African American women (Murrock & Gary, 2010; Pfeiffer et al., 2011; Strawbridge et al., 2001). For example, in a study by Pfeiffer and associates (2011), they found there was a significant relationship between church attendance and physical activity among African American adolescent females. This suggests that the same may be true for African American adult females. Many churches have a gymnasium or large recreational space where athletic competitions and other physical activity can take place and, according to previous research, proximity of recreational facilities is associated with increased physical activity among adults (Pfeiffer et al., 2011). Churches are well-suited to identify and prioritize the health problems, including weight loss, within their congregation and to address the needs of fellow members in a setting of prayer, support and trust (Baruth & Samuel, 2010). Overall, church-based programs have been found to positively influence health-related lifestyle changes in African Americans (Murrock & Gary, 2010) and in one study a focus

group of African American men and women mentioned having physical activity programs in church would help them be more physically active (Bopp et al., 2007).

An evaluation of the heart and soul physical activity program, (Peterson, 2011) reported middle-aged, African American women believed that their physical activity levels would improve with enhanced social support for physical activity provided by family, friends and church members. From the results of a physical activity telephone survey of members of African Methodist Episcopal (AME) congregations in South Carolina, Bopp et al. (2006) suggested church-based interventions with African American women should target one or all of three areas: psychological (improving self-efficacy and physical activity enjoyment), sociocultural (improving social support and building the social environment in the church), and environmental (creating easily accessible physical activity programs in churches). Several programs have focused on the environmental area in churches targeting nutrition where others have combined physical activity with nutrition with a goal of weight loss. However, there have been few studies where the focus was primarily to understand which programs would increase physical activity among the members while targeting all of the three areas that Bopp et al. (2006) mentioned in their study. Also, few have focused on dance as the primary form of physical activity.

Therefore, the overall goal of this research was to investigate one type of culturally specific dance, soul line dance, and determine if soul line increased motivation for physical activity, when presented in a supportive environment. This was examined within the expectancy-value model of achievement choice.

Research Questions

Fun and enjoyable activities help African American women stay motivated and committed to engaging in an active lifestyle (Peterson, 2011). Several studies demonstrated that dance in the church can be the key to promoting physical activity among African American women. Content specificity within certain domains, such as soul line in the culturally-specific, aerobic dance domain, can influence a participant's decision to engage in the activity.

According to Bopp and associates (2006), few studies have targeted all three areas of concern (psychological, sociocultural, and environmental) when researching physical activity tactics among African American women. Also, according to Murrock and her associates (2008, 2009, 2010), few studies have focused on increasing physical activity using culturally specific dance in the African American church. To date, there have not been studies that focused solely on one type of culturally specific dance, such as soul line, and its attractiveness in terms of physical activity to African American women in the church setting according to the expectancy value model. This thesis focused on the psychological area (participating in soul line and being able to display competence in it) of physical activity mentioned by Bopp et al. (2006) while still targeting the sociocultural (group atmosphere) and environmental areas (convenient church setting). The overall goal of this thesis was to determine if soul line was an attractive activity to African American women if offered in their church. Secondary goals were to determine if expectancy-related beliefs and subjective task values affected effort and intention for future participation based on the expectancy-value model. This study addressed two questions within an African American church dance context: (a) What

relationships were there among expectancy-related beliefs, subjective task value, effort and intention for future participation in soul line? and (b) Were there differences among participants' perception toward expectancy related beliefs, subjective task values, effort and intention for future participation based on self-reported physical activity status?

Method

The study was approved by the university's institutional review board and participants provided informed consent prior to the participation. Four churches agreed to recruit participants and allow data collection on site with existing cohorts from their women's ministries. These churches were located in ethnically diverse neighborhoods of south Dallas and south Arlington parts of the Dallas-Fort Worth Metroplex. Each of them were Christian churches varying in denominations (i.e. Baptist or non-denominational) with 2,500 members or more.

Participants

The total number of women present at the ministries were 105, including members and leaders. There was 100% participation from each ministry member that was present. One hundred five women completed the survey during one session, each conducted at four predominantly African American churches. Five individuals were excluded from further analyses because they did not identify themselves as African American. Thus, the sample consisted of 100 African American women (M age = 42.14; SD = 11.82) who reported their stature and mass, producing mean BMIs of 30.69 kg/m². Complete data on all participants and the African American participants is presented in Appendix B (Tables B.1 and B.2).

Instruments

The questionnaire consisted of six parts: (1) demographic information, (2) expectancy-related beliefs, (3) subjective task values, (4) effort, (5) intention for future participation, and (6) physical activity.

Demographics information. Participants' demographic information such as age, race/ethnicity, and self-reported height and weight were assessed.

Expectancy-related beliefs. Participants rated their beliefs about ability (Items 1-3) and expectancies for success (Items 4-5) in soul line using a 5-point response scale by responding to five questions: 1) How good are you at this type of aerobic dance? (1 = *very bad* to 5 = *very good*); 2) If you were to rate yourself on your ability to do soul line dance, what would your rating be? (1 = *horrible* to 5 = *professional dancer*); 3) Compared to your regular form of dancing, how good are you at soul sine dance? (1 = *a lot worse at this type of dance* to 5 = *a lot better in this type of dance*); 4) How well do you think you could learn this soul line dance routine with multiple practices? (1 = *not at all* to 5 = *very well*); 5) How good would you be at a new routine in soul line dancing besides what you just participated in today? (1 = *very bad* to 5 = *very good*). These self-report measures were chosen and modified from a previously validated questionnaire developed and used by Xiang and her colleagues (2004) to assess elementary students' perceived ability and expectancies for success in a running program ($r = .87$).

Subjective task values. Six questions were used to measure participants' subjective task values in this study based off the instrument used by Xiang, McBride, Guan, and Solmon (2003). This instrument included attainment value (importance: Items 1-2), intrinsic value (interest: Items 3-4), and utility value (usefulness: Items 5-6).

The participants responded to each of the six statements on a 5-point scale: 1) For me, being good at soul line dancing is... (1 = *not important* to 5 = *very important*); 2) Compared to your other physical activities, how important is it to you to be good at activities such as soul line? (1 = *not very important* to 5 = *very important*); 3) In general, I find learning new physical activities in aerobic dance (such as line dancing, choreographed jazz/hip hop routines, free-style Latin-style dancing, etc.) as ... (1 = *very boring* to 5 = *very fun*); and 4) How much do you like dance activities like Soul Line dancing? (1 = *don't like it at all* to 5 = *like it very much*); 5) Some things that you learn in the class help you do things better outside of class. We call this being useful. For example, learning appropriate warm-up and stretching techniques for dance might help you become more flexible for other daily activities. In general, how useful was it to learn soul line dancing? (1 = *not useful at all* to 5 = *very useful*); 6) Compared to your other physical activities, how useful is what you learn in soul line dancing? (1 = *not useful at all* to 5 = *very useful*). The mean of these 6 items were used as participants' subjective task values. A recent study has supported the use of these items with young adults in the context of physical activity (Gu et al., 2011; $r = .81$).

Intention for future participation. Two questions were used to measure participants' intention to engage in soul line in the future: 1) If your church offered soul line dancing on a regular basis for exercise, would you be interested in participating? (1 = *yes* to 5 = *no*); 2) If your church offered soul line dance on a regular basis for exercise, to what extent would you want to start participating? (1 = *not at all* to 5 = *very much*). These questions have been used and modified in previous work with schools

students and youth adults (Gao, 2008; Xiang et al., 2004) where validity was supported (Gao, 2008; $r = .81$).

Effort. A modified version of the Intrinsic Motivation Inventory in a study by McAuley, Duncan and Tammen (1989) was used to measure participants' effort when engaging in soul line. Three questions on a 7-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (7) were used: 1) I put a lot of effort into Soul Line; 2) I tried really hard while doing soul line; 3) I didn't try very hard at doing this soul line. Evidence for the reliability of this scale has been provided by McAuley et al. (1989; $r = .84$).

Physical activity. Self-reported physical activity was assessed using the Godin and Shephard (1985) Leisure-Time Exercise Questionnaire. There were two questions. The first question consisted of three parts: 1) During a typical 7-day period (a week), how many times on the average do you do the following kinds of exercise for more than 15 minutes during your free time? The participants then wrote in the number of times per week they engaged in a) strenuous exercise (heart beats rapidly), b) moderate exercise (not exhausting), or c) mild exercise (minimal effort). Each of the specified exercise zones were supplemented with several examples of activities within those zones. Total leisure time activity was calculated by converting the raw data to metabolic equivalents (METs) based on the responses given within each zone. A total METs score was achieved by the following formula: $[9 * (\text{number of strenuous exercise episodes})] + [5 * (\text{number of moderate exercise episodes})] + [3 * (\text{number of mild exercise episodes})]$ = activity score in arbitrary units. The second question was used to calculate the frequency of the responses to the question regarding the frequency of weekly leisure

time activity “long enough to work up a sweat.” Physical activity was reported in 15 minute bouts ranging from 0 – 390. Further, physical activity was categorized as meeting or not meeting the recommendations by summing minutes of moderate and vigorous or vigorous activity. Scores of 75 minutes or more of vigorous activity or 150 minutes or more of moderate and vigorous activity were considered to meet recommendations. Scores of 149 minutes or below of moderate and vigorous were considered to not meet the recommendations.

Procedure

Leaders from over 45 area churches with at least 90% African American membership were contacted to gain their permission in fall 2011. Ten churches responded with some interest, 6 agreed to participate and 4 ultimately were selected for data collection in spring 2012. Data collection took 1 day to complete (on 4 different dates) during one of the monthly women’s ministry meetings. I briefly described soul line then, with the consent of the participants, I led the group in a 20-minute soul line dance routine. Once finished, the participants filled out the questionnaire. This occurred within 15 minutes of the exercise session.

Data Analysis

Cronbach’s alpha coefficients were calculated on all subscales of the questionnaire and the overall questionnaire to assess internal consistency. Means, standard deviations and Pearson product-moment correlations were calculated using SPSS 19.0 to identify significant relationships among participants' physical activity, motivational beliefs and behaviors, effort and intention for future participation in soul line. An alpha of .01 was used because of multiple analyses on the same participants.

Participants were grouped based on their self-reported physical activity into three groups for additional analyses.

Results

Descriptive Statistics and Correlations

Data were screened for accuracy and for normal distributions (Table B.3). The sub-scales included 2 to 6 questions each; the responses were 5 choices for the first 3 sub-scales and 1 through 7 for the last sub-scale, with larger numbers representing positive responses for the first two questions and the reversed representation (lower numbers representing positive responses) for the last question.

Cronbach's alpha coefficients for three of the four sub-scales indicated acceptable (Expectancy-related Beliefs $r = .90$; Subjective Task Values $r = .84$, Intention for Future Participation $r = .90$) reliability and internal consistency. Previous research reported similar reliabilities. The mean response within a sub-scale was used for analyses. Means, standard deviations and correlations for the sub-scales are reported in Table 1. Physical activity was not correlated with the survey sub-scales (Table 1).

Table 1

Means and Standard Deviations for Questionnaire Subscales and Correlations Among Subscales for Sample (N=100)

Study Variables	1	2	3	4	5	6	7	8	9
1. Beliefs About Ability									
2. Expectancies for Success	.80**								
3. Importance	.32**	.44**							
4. Interest	.45**	.61**	.47**						
5. Usefulness	.34**	.47**	.49**	.65**					
6. Intention	.21	.29**	.41**	.46**	.66**				
7. Effort	.06	.21**	.29**	.35**	.54**	.51**			
8. Total Leisure	.15	.15	.10	.07	.20	.09	.12		
9. MVPA	.22	.18	.12	.09	.22	.08	.10	.97**	
<i>M</i>	3.69	4.00	3.56	4.45	4.31	4.55	5.36	32.7	58.8
<i>SD</i>	0.91	0.74	0.95	0.57	0.63	0.72	1.33	27.8	53.8

Note: *M* = mean; *SD* = standard deviation; Intention = Intention for future participation in soul line; MVPA = Moderate to Vigorous Physical Activity; ** $p < .01$ (two tailed).

Expectancy-Related Beliefs (the mean of four questions) was correlated to Intention for Future Participation ($r = .26, p = .008$) but not to Effort. Subjective Task Values (the mean of six questions) was correlated to both Intention for Future Participation ($r = .60, p = .0001$) and Effort $r = .46, p = .0001$). The sub-scales for Expectancy-related Beliefs and Subjective Task Values were related to each other ($r = .55, p = .0001$) and further examined to explore the relationships of the model components to Effort and Intention for Future Participation. Of the 21 correlations among the 7 sub-scales (Beliefs About Ability, Expectancies for Success, Interest, Importance, Usefulness, Intention for Future Participation and Effort), nineteen were significantly and positively related to each other. Intention and Effort were not correlated with Beliefs about Ability. Beliefs about Ability and Expectancies for Success combine as “Expectancy-related Beliefs” in the model. These two sub-scales produced the highest correlations with 64% variance in common. Subjective Task Values included Importance, Interest and Usefulness in the model. The correlations among those three

variables share 22-42% of the variance in common. Expectancy-Related Beliefs, Usefulness, Interest and Effort were used as predictors in a forward regression to predict Intention for Future Participation. Usefulness was entered first and Effort was entered in the second and final step [$R^2 = .69$, $F(2, 97) = 43.42$, $p = .0001$]. Interest and Expectancy-Related Belief values were excluded.

Self-Reported Physical Activity

Self-reported physical activity data was converted to minutes per week of moderate-to-vigorous physical activity (MVPA) using the 2-for-1 rule where vigorous minutes are doubled and added to moderate minutes. At 150 minutes of MVPA, 81% did not meet the recommended amount of activity. While this method was less well-known than simply adding moderate and vigorous minutes for MVPA, this method classified six women as meeting the recommendations who would not have been classified as such using the sum of moderate and vigorous minutes. Ten women reported no physical activity in the previous week. Two separate physical activity groups were formed based on calculated physical activity in the previous week; those meeting the guidelines ($n = 19$) and those not meeting the recommendations for physical activity ($n = 81$). The group data is reported in Tables 2 and 3.

Table 2

Descriptive Statistics for Self-Reported Physical Activity in the Last 7 Days and Body Mass Index (BMI) Calculated From Self-Reported Stature and Mass by Physical Activity Group (Not Enough Activity in the Previous 7 Days and Meeting or Exceeding Recommendations)

Physical Activity Group	Vigorous Physical Activity			Moderate Physical Activity			BMI			Frequency of Obesity			
	N	Mean	SD	N	Mean	SD	N	Mean	SD	LT 30	30-34.99	35-39.9	40+
Not Enough Activity	81	12.41	17.07	81	26.85	23.56	81	31.02	6.76	40	20	12	9
Meets Recommend.	19	74.21	26.68	19	67.89	42.53	19	29.30	5.36	12	3	3	1

Table 3

Descriptive Statistics for Questionnaire Sub-Scales and Body Mass Index by Physical Activity Groups (Not Enough Activity Reported in the Previous 7 Days and Activity Meeting or Exceeding Recommendations)

Study Variables	Not Enough Activity					Meets Recommendations					ES
	N	Min.	Max.	Mean	SD	N	Min.	Max.	Mean	SD	
Expectancy-Related Beliefs	81	1	5	3.85	0.75	19	1.60	4.8	3.00	0.87	1.05
Beliefs About Ability	81	1	5	3.67	0.86	19	1	4.5	3.76	1.12	-.09
Expectancies For Success	81	1	5	3.96	0.74	19	2	5	4.14	0.75	-.24
Subjective Task Values	81	2	5	4.09	0.59	19	3	5	4.16	0.62	-.12
Importance	81	2	5	3.57	0.90	19	1	5	3.5	1.15	.07
Interest	81	2	5	4.43	0.57	19	3	5	4.5	0.55	-.13
Usefulness	81	2	5	4.27	0.65	19	3.5	5	4.47	0.51	-.34
Intention for future participation	81	2	5	4.54	0.71	19	2	5	4.53	0.77	.01
Effort	81	1.33	7	5.58	1.35	19	3.67	7	5.72	1.24	.16
BMI	81			31.02	6.76	19			29.30	5.36	.4

Generally the group differences on individual questions and sub-sections were small, with effect sizes of near zero (Table 3). Expectancy Related Beliefs (the mean of Beliefs about Ability and Expectancies for Success) was the only exception with large effect size (ES = 1.05). There were twenty-two significant (at $p = .01$) correlations of the forty-two within the two activity groups. Most were in the “not enough activity” group where most ($n = 81$) participants were placed. Four correlations were significant in both groups; Beliefs about Ability and Expectancies for Success ($r = .78$ and $.87$), Expectancies for Success and Interest ($r = .61$ and $.61$), Intention for Future Participation and Usefulness ($r = .69$ and $.60$), and Effort and Intention ($r = .50$ and $.60$). One significant correlation was unique to the “meets recommendations” group; Beliefs about Ability and Importance ($r = .60$). Complete information is included in the Appendix Tables B.5 and A.6.

BMI and Physical Activity

Forty-eight women were obese; 7 of those met the physical activity guidelines, while 12 of the 52 non-obese women met the guidelines. At least one woman was in each of the eight cells when crossing physical activity (2) by weight (LT 30 BMI, class 1 obesity, class 2 obesity and extreme obesity). See Table B.7 for more detail.

Discussion

The expectancy-value model was used to examine the relationships between motivational beliefs (Expectancy-Related Beliefs), Subjective Task Values, Effort and Intention for Future Participation after a soul line dance class among African American women in the church setting. Based on self-report, most (81%) of the women did not participate in the recommended amount of physical activity [75 minutes of vigorous, 150

minutes of moderate or (2* vigorous + moderate) = 150+ minutes of physical activity] during the week previous to the survey. As was previously stated, 40% of African Americans meet the recommended physical activity guidelines and 33% report no activity (Bopp et al., 2009). In this sample fewer women met the guidelines (19%) yet only 10% reported no activity. After one twenty-minute trial session of soul line nearly 70% of the women, regardless of their level of previous physical activity, indicated they would be interested in participating “often” in this activity at their church (Table B.8). Very few women (about 10%) responded negatively to either question regarding future intention. Thus, soul line dancing was attractive to African American women if offered in their church; addressing the overall goal of this study (Table A9). Most (58%) of women in the “meets recommendations” group responded with the highest rating for future intention to soul line dancing, similar to the response for women not meeting the recommendations (60%). So while soul line is not for everyone, clearly there is potential to move women from sedentary to active and increase the activity levels of women who currently are not engaged in sufficient activity to reduce health risk.

Several studies have reported that enjoyment is an important factor when determining in which activities to participate (Bopp et al., 2007; Peterson, 2011). The content of the activity and its domain (i.e. soul line in the culturally specific, aerobic dance domain) can influence a person’s decision to participate in the activity again in the future (Chen et al., 2008). Aerobic dances, such as soul line, can reduce body fat and BMI in women (Murrock et al., 2009) and if soul line is done on a regular basis, this sample of women, whose BMI ranges from 14.98 – 51.75 kg/m² ($M = 30.69$), could gain substantial benefits and start to lower their BMI, which could have a positive, lasting

domino effect on their quality of life. Soul line could be an excellent option for physical activity among African American women in the church setting.

Expectancy-Value Model

A secondary goal of this project was to determine whether or not the two components of the model (Expectancy-Related Beliefs and/or Subjective Task Values) were correlated to Intention for Future Participation and/or Effort. Both components of the model were related to Intention, however only Subjective Task Values was correlated to Effort. The Intention subscale had been previously used with this model and Effort had not. While support was provided for the internal reliability of the three sub-scales used in this study, the fourth, Effort, was not consistent with previous reports of reliability. McAuley et al. (1989) had four items for effort-importance, while the current subscale had three items for Effort and two for Importance in another subscale (Gu et al., 2011). The reduction in the number of items might explain the reduced reliability. The item that did not appear was “it was important to me to do well at this game.” The same seven-point (strongly agree to strongly disagree) was used in both surveys for Effort. The Importance question from Gu et al. (2011) was “For me, being good at soul line dancing is...” rated on five points from “not very important” to “very important”. In the current survey importance had had two focused questions from Gu et al. (2011), while the importance question from McAuley et al. (1989) was combined into a single factor with effort. The Cronbach’s alpha for importance was slightly higher in this study when compared to those reported by Gu et al. (2011). Thus, changing the number of items may have influenced the internal consistency of the Effort sub-scale questions on this survey when compared to McAuley et al. (1989).

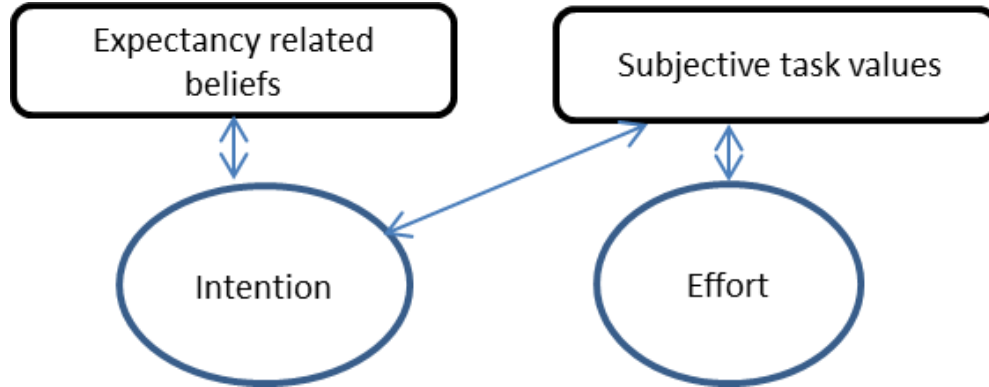


Figure 2. Relationships among predictor variables from the expectancy value model of achievement choice and outcome variables: Intention for future participation and effort in the entire sample (N = 100).

Consistent with predictions based on the model, Beliefs about Ability and Expectancies for Success were related to decisions about future participation (e.g., Intention). However, only Subjective Task Values were related to Effort (Figure 2). This could mean that Effort was a different construct. Importance was not closely associated with the other Subjective Task Value components (Interest and Usefulness). Generally the present study supports the Expectancy-Related Beliefs portion of the model based on the relatively high correlations of the two components (ability and success) and the lack of relationship with most other aspects of the model. Success was modestly related to Interest (36% variance in common). Usefulness, Interest, Intention and Effort were clustered together more strongly than Importance, thus failing to support the Subjective Task Value component of the model as a construct and distinct from Effort or Intention. Usefulness and Effort were significant predictors of Intention for Future Participation, while other components of the model were not (e.g., Beliefs about Ability, Expectancies for Success). This may be a function of small variability in the responses

on the survey, the greater range of physical activity in the sample or the sample characteristics (e.g., age, race) or the connection to the church.

Physical Activity

None of the sub-scales were correlated with self-reports of physical activity. Previous work examined perceptions of competence among children for physical education and throwing (Xiang et al., 2003), survey sub-scales were correlated with each other and the children's perception of skill. However, the survey data was not used to predict actual activity or skill which would seem to be an important goal. Another study examined the model among college women engaged in physical activity (Gu et al., 2011). An important finding was that group cohesion was associated with the motivational constructs of Expectancy-Related Beliefs and Subject Task Values. Thus, the environmental support of peers was an important predictor of attendance and even choice of activities among college women. The support associated with the African American churches in the current study would explain the level of interest women expressed in soul line if offered in their church.

The expectancy value model produced four common significant correlations in the two physical activity groups. Expectancy-Related Beliefs were significantly and positively correlated with Subjective Task Values in the "meets recommendations" group and the "not enough activity" group. In both groups the variables for Expectancy-Related Beliefs were positively and significantly related to each other. However, there was no significant correlation between Effort and Expectancy-Related Beliefs, yet two significant relationships emerged in both groups: Intention to Usefulness and Intention to Effort (Figure 3). This is interesting because according to the model, Expectancy-

Related Beliefs are supposed to predict Effort, yet in this study, elements of Subjective Task Values predicted Effort across activity groups.

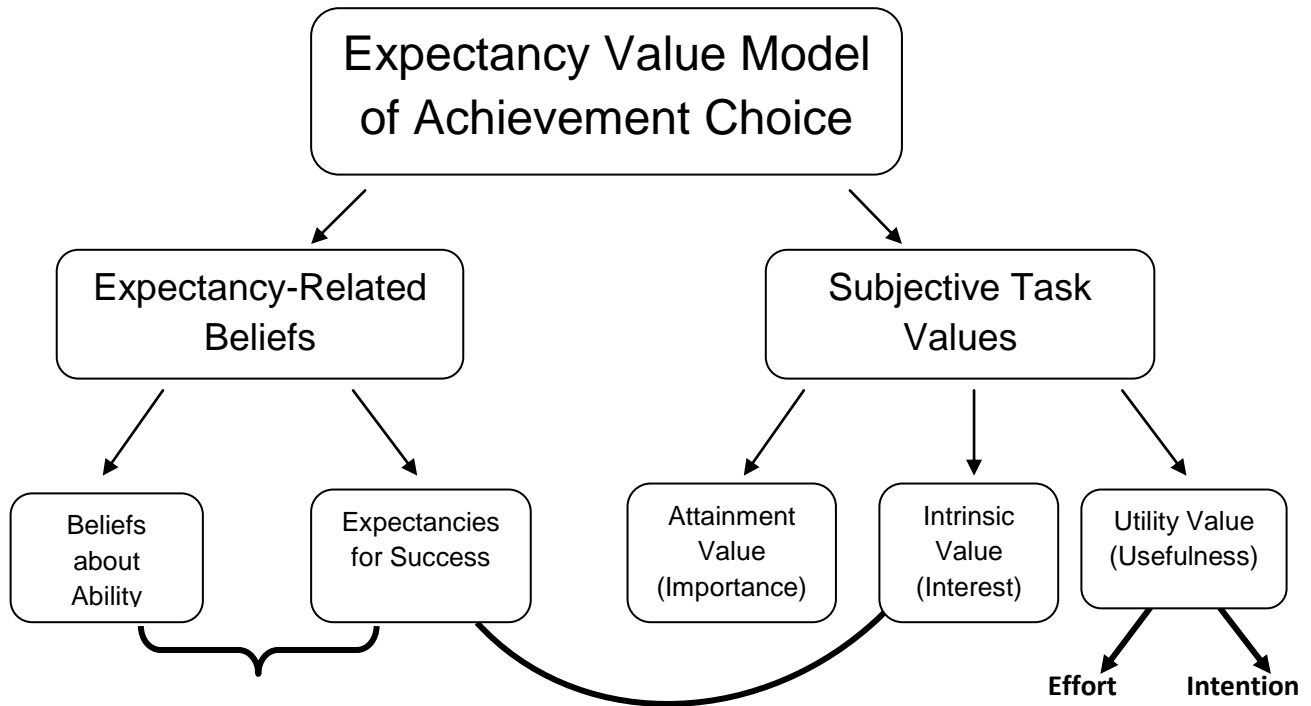


Figure 3. Predictor variables from the model and outcome variables producing significant correlations in both physical activity groups.

The scale for the Subjective Task Values section of the questionnaire was effectively different than previous studies or the previous section because no participants used the lowest rating. Thus, the scale was not five points, but four which reduced the diversity of responses and may have influenced the variability enough to impact correlations. The “not enough activity” group produced significant correlations among each variable in the Subjective Task Values except Importance and Intention to Beliefs about Ability; the strongest correlation was Intention to Usefulness (Table B.5). The “meets recommendations” group produced a pattern where Usefulness and Effort

related to Intention; all other variables were not related to Intention (Table A.6).

Subjective Task Values as a whole are the incentives that motivate someone to engage in an activity (Eccles et al., 1983) and importance and interest predict the level of engagement an individual would have in an activity (Xiang et al., 2004; Gu et al., 2011). Based on the previous research the components of Subjective Task Value were distinct but related components, this was not evident in these data. Intuitively, a group of people who is not active would not have a basis for determining ability or success, both of which were either not related or had a weak correlation to intention in this group. As stated earlier, for the “meets recommendations” group, Usefulness and Effort were related to Intention. Among elements of the Subjective Task Values, Intention and Effort, Usefulness had the strongest correlations across both groups. So the patterns that emerged were different than previous studies. Overall, Usefulness was important for motivational orientation in this sample.

Breaking Barriers and Increasing Social Support

Based on the descriptive data among the study variables and physical activity groups in Table 3, the average score for Interest for all groups was a 4.4 or 4.5 on a 5 point scale. These close scores among groups suggest, as a whole, participants found soul line to have an immediate appeal. Many factors might have contributed to this. First, soul line is a group activity and can be accomplished without a partner, which Murrock and Gary (2008) have stated is an important element among African American women. It also allows for socialization and possible camaraderie among participants, another important aspect in this group (Boyington et al., 2008; Murrock and Gary, 2008) and important sociocultural element for fitness programs for African American women

(Bopp et al., 2006). In this case, it was held during women's ministry events and the environment was designed to be light-hearted. Second, soul line was danced to all Christian-based, urban-inspired music, with contemporary dance moves. Culturally specific dances, such as soul line, are relevant and important among African American women because they provide opportunities for traditional practices with the specific movements, cultural transmission and social acceptance (Murrock & Gary, 2008). As mentioned earlier, these types of dances do not require much equipment, can be performed in a wide variety of settings and are not expensive, which increases its overall appeal (Keough et al., 2009). Third, the location of the event (the environmental factor) was held at the participants' church which created the feeling of convenience and comfort among participants which is important among African American women and motivation in physical activity participation (Bopp et al., 2006; Peterson 2011; Pfeiffer et al., 2011).

Overall, soul line provided an outlet for aerobic physical activity while addressing several barriers that are present in this population. Issues with time (women's ministry meeting already set), childcare (church childcare available), safety (indoors in safe environment) and social support (dancing with other female members of the church) were addressed. The next study should include a soul line dance intervention that will be able to examine if the reduction in perceived barriers do assist with active participation.

Limitations of the Study

A limitation of this study was that all data were collected after the women had participated in a brief session of soul line dancing. Thus, the beliefs about ability and

expectancies for success were influenced by the activity that was being predicted: effort and intention for future participation.

An additional limitation was that all physical activity, stature and mass were self-reported, making it difficult to get accurate measurements from the participants. This could have had a direct impact on BMI percentages in this group as compared to national data. Also, regarding physical activity, there was no way to determine how active a person really was in the past 7 days, as there are known reliability issues with self-reported physical activity.

Another issue was that although I led the soul line activity, I was visibly seven months pregnant. This could have affected the will and motivation of the women's ministry members to participate in the activity.

Summary and Conclusions

Several findings suggest the viability of soul line dancing to increase physical activity among African American women in church settings and issues with the model used to examine motivation in this study:

- While 81% of the women did not meet physical activity guidelines, most women (more than 60%) indicated an interest in participation regardless of current physical activity level.
- Only 6% of the women were classified differently using the moderate plus vigorous minutes versus the vigorous*2 plus moderate minutes approaches.
- The expectancy-value model did not relate to current physical activity. Previous uses of the model examined only physically active children (in physical

education) and college-aged participants in activity classes. The model needs to be further tested on a wider variety of physical activity levels.

- Body mass index, a critical health concern among African American women, was neither related to the participant's responses to the questionnaire nor related to physical activity. Both physical activity levels and obesity were lower in this sample than what is reported in the literature.

Future research testing the expectancy value model should include direct measures of physical activity, BMI and future participation.

This study also was the first to indicate level of interest in a defined culturally specific dance, such as soul line, while meeting all three areas suggested for church-based physical activity interventions for African American women (Bopp et al., 2006). First, the psychological area which focuses on improving activity enjoyment along with self-efficacy, was met through utilizing the Expectancy Value Model to guide our questionnaire. We were able to assess if improving self-efficacy (and/or competence) in soul line was of psychological importance through the Expectancy-Related Beliefs questions and level of interest through the Subjective Task Values section of the questionnaire. Second, the sociocultural area, which focuses on improving social support and building the church's social environment, was met through the social, group nature of soul line dancing in general. Activities like this improve the social network within the ministries and, ultimately, the church. Third, the environmental area focused on creating easily accessible physical activity programs in churches. The fact that the women who participated in this study were already members of the church and were planning to attend the women's ministry meeting, assumes that many did not have to

sacrifice any major projects to come to church and participate. If they were going to come to the event, then they came, demonstrating just how accessible this environment was. The level of enjoyment was indicated by the high scores in the Interest and Intention for Future Participation sections of the questionnaire. This suggests soul line as a culturally specific dance is something that African American women would like to participate in at church for exercise purposes and if all three intervention suggestions are met, it will help maintain the interest. Future studies should continue to ask this population of women what activities interest them in order to effectively create successful physical activity programs in the future.

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APPENDIX A
EXTENDED LITERATURE REVIEW

It is well documented that regular exercise is beneficial for overall mental health, physical health, and cognitive function throughout life (Inzitari, Greenlee, Hess, Perera, & Studenski, 2009; Stroth, Hille, Spitzer, & Reinhardt, 2009). Specifically, regular exercise has been associated with fewer symptoms of depression, anger and stress, a healthier heart and immune system, and reduction in all-cause mortality (Stroth et al., 2009; Serwe, Swartz, Hart & Strath, 2011). According to the 2008 Physical Activity Guidelines for Americans (U. S. Department of Health and Human Services [USDHHS], 2008), adults gain substantial health benefits from two and one half hours a week of moderate-intensity aerobic physical activity, or 75 minutes a week of vigorous physical activity. Physical activity is any bodily movement produced by the contraction of a skeletal muscle that increases energy expenditure above a basal level and can be divided into two categories: baseline and health-enhancing physical activity (USDHHS, 2008). Baseline activity consists of light-intensity activities of everyday life, such as standing, walking slowly or lifting lightweight objects. Health-enhancing activities are those that, when combined with baseline activities, produce health benefits, such as brisk walking, dancing, gardening or weight lifting. Sports, planned exercise, and physically active hobbies such as these all can contribute toward health-enhancing activities and meet the physical activity guidelines (Ham, Kruger, & Tudor-Locke, 2009). Leading a physically active lifestyle produces fewer incidences of cardiovascular disease, diabetes mellitus type 2, colon cancer, breast cancer and osteoporosis than a lifestyle without physical activity (Wiklund, Olsen, & Willen, 2011; Wilcox et al., 2007). For older adults, exercises such as resistance training, aerobic exercise, balance training and even Tae Kwon Do offer significant physical benefits (Keough, Kilding,

Pidgeon, Ashley, & Gillis, 2009). However, even with the known physical and mental health benefits of a physically active lifestyle, only 40% of the entire U.S. population engages in enough activity to derive health benefits (Izquierdo-Porrera et al., 2002).

Lack of physical activity has contributed to having a high body mass index (BMI) (Yanek, Becker, Moy, Gittelsohn & Koffman, 2001). BMI is a common clinical measurement used to classify adult weight status in predicting or impacting health outcomes such as quality of life. BMI is calculated by dividing a person's weight, in pounds, by their height squared, in inches, and then multiplying by 703. A BMI of 18.0-24.9 is in the normal category; 25.0-29.9 is overweight and 30.0 or over is obese (Cox, Zunker, Wingo, Thomas & Ard, 2010). For obese individuals, weight reduction through regular exercise has proven to have a positive effect on quality of life (Wiklund et al., 2011). Yet, more than one billion of the world's population is overweight and 300 million are obese (Wiklund et al., 2011). In the United States alone, 66% of the adult population is overweight or obese (Song, Peng & Min Lee, 2001). Many factors contribute to the BMI status of an individual and can vary depending on age, race, gender, socioeconomic status, heredity, or other characteristics of the overweight/obese individual (Cox et al., 2010). Obesity, along with hypertension and diabetes, is especially on the rise among minorities and women (Wilcox et al., 2007; Baldwin, Humbles, Armmer, & Cramer, 2001; Murrock & Gary, 2010), which is largely due to lack of physical activity (Yanek, et al., 2001; Williamson & Kautz, 2009). Many African American women, in particular, lead sedentary lifestyles and, as a result, have the highest prevalence of high blood pressure (42.6%) and obesity (79.6%) in the United States, which is among the highest in the world (Williamson & Kautz, 2009).

As mentioned earlier, the physical activity guidelines recommend all adults to accumulate at least two and one half hours a week of moderate intensity aerobic physical activity, or 75 minutes of vigorous physical activity (USDHHS, 2008), yet only 40% of the entire African American population is meeting that guideline with 33% reporting no leisure activity at all (Bopp et al., 2009). African American women have several barriers to physical activity including personal issues (lack of time, lack of will power, and lack of energy), and environmental issues such as poor street lighting, lack of sidewalks and lack of recreational facilities (Ainsworth, Wilcox, Thompson, Richter & Henderson, 2003; Peterson, 2011). Also, African American women perceive that greater sociocultural value is placed on work and family responsibilities rather than on meeting personal health needs (Peterson, 2011). Body image has also served as a physical activity barrier for African American women. In several studies, this population has reported less pressure to be thin, less dissatisfaction with their weight and greater acceptance of being overweight than their Caucasian counterparts (Boyington et al., 2008; Cox et al., 2010). These are a couple reasons why there is a lack of urgency for physical activity and helps explain why African American women typically do not recognize being overweight as a problem until at a significantly high BMI level (Cox et al., 2010). In order to engage African American women and overcome the barriers, while still meeting the physical activity guidelines, there has to be more insight as to what exercise activities interest them.

One such form of exercise that could meet the recommended physical activity guidelines, increase leisure time physical activity, and serve as an interesting activity for African American women is aerobic dance. Aerobic dance has been shown to reduce

body fat and BMI in women because it requires repetitive movement of large and small skeletal muscles (Murrock, Higgins, & Killion, 2009). Through aerobic dance, cardio-respiratory endurance, balance, lower limb strength and endurance, agility, and flexibility can all improve greatly (Leelarungrayub et al., 2011). According to Keough et al. (2009), aerobic dancing can result in relatively high heart rates (68-90% of age-predicted maximum heart rate), high levels of oxygen consumption (42-90% of VO_{2max}), or ratings of perceived exertion (up to 14 out of 20) in young and older adults. In the African American culture, aerobic dance reflects an intrinsic cultural orientation toward physical expression and creativity (Murrock & Gary, 2008). Its role is to provide a means for emotional expression, interaction, support and cohesion, which is symbolic of traditional African heritage (Murrock & Gary, 2008). In a recent study by Boyington and colleagues (2008), the African American female participants reported a preference for group physical activities, such as step and dance activities as opposed to individual activities. However they reported that perceived “beauty cost” (i.e. sweating out their hairstyle), perceived lack of time and lack of access to preferred activities were what hindered their motivation to participate in dance activities. Perhaps if the enjoyment level of the activity is sufficient, African American women would be motivated to focus on the activity and not the perceived barrier.

According to Graves et al. (2010), motivation is the key determinant influencing the allocation of an individual’s time to pursue an activity, and enjoyment is one of the main reasons for this. Several studies have reported that enjoyment helps motivate African Americans to be more physically active (Bopp et al., 2007; Peterson, 2011). In a focus group of seven African American women who participated in the heart and soul

physical activity program, several of the participants shared their lack of motivation in engaging in physical activity, describing it as “hard”, “boring” and “not fun.” (Peterson, 2011). Aerobic dancing provides an enjoyable alternative to “the usual” and with dance, there is fun, laughter and group camaraderie (Murrock et al., 2009). Given the cultural connection to dance, enjoyment, and the physical benefits derived from it, and considering the current overweight and obesity statistics among African American women, it is important to investigate the motivational factors to engage dance in this population.

Dance in the African American Culture

The type of activity within the aerobic dance domain is also what should be investigated further with African American women. Intrinsic values such as enjoyment can motivate African American women to dance for physical activity. Also, as mentioned earlier, dancing in this community has a historical connection and certain dances can be traced back to pre-emancipation and Africa (Hazzard-Gordon, 1985). Within this community, dancing is learned during childhood from family members, friends and in social environments such as the school yard or house party where there is a fun, light atmosphere. Murrock and colleagues (2008) suggest that these culturally specific dances are important to African American women because they serve purposes related to traditional practices, cultural transmission and social acceptance. These dances provide social contact and companionship for women since they can be done without a partner.

However, within the domain of culturally specific dance, there are uniquely different styles of dance that could serve as barriers or motivators to engaging in the

activity. For instance, praise dancing in the church, line dancing, or stepping can all be considered culturally specific dances in the African American community but are all very different and may not appeal to every African American woman. The benefit of these types of dances, though, is they do not require much equipment or expense, and can be performed in a variety of settings, making them more appealing to a wide range of individuals (Keough et al., 2009).

Soul line. Line dancing is a form of low-impact aerobic exercise, especially for those seeking variety (Gordon, Overend, & Vandervoort, 2001). It consists of a series of songs with choreographed dance steps separated by short pauses to change music and announce the next dance steps. It can be altered to match the age, health status, and musical preference of participants without reducing the physiological or psychological benefits (Gordon et al., 2001; Murrock & Gary, 2008). Exercise intensity can also be increased or decreased depending on the music tempo and body movements (Gordon et al., 2001).

In the African American community, an urban inspired edition of line dancing entitled “soul line” exists to incorporate rhythm & blues (R & B), jazz, pop and hip-hop with associated dance moves. This style of dancing comes from Philadelphia-style stroll dances mixed in with little soft shoe style tap steps and much attitude. Soul line dates back to the mid-20th century with the creation of “The Hustle” and the “Harlem Shuffle” to the 21st century with “The Cha Cha Slide” and the “The Cupid Shuffle.” In the African American culture, soul line dances are often performed in groups during festive occasions such as family reunions and wedding receptions. They provide a sense of unity within a group with no competition. The steps are relatively easy to learn and

people of all ages can participate. Murrock et al. (2009) conducted a low impact dance intervention which consisted of choreographed dance routines to gospel music that was used each session (two evenings a week for 12 weeks, for a total of 24 classes). The women reported support, acceptance and enjoyment to be the most important benefits of dancing in the groups, which resulted in lower BMI and decreased body fat.

Church Setting. The location of the activity has been said to be important in adhering to an exercise program or activity (Izquierdo-Porrera et al., 2002). Among African American women, convenient and affordable exercise facilities, assistance with child care, peer and family support are all factors that promote regular physical activity participation (Peterson, 2011). In an evaluation of the heart and soul physical activity program, Peterson (2011) reported in a focus group of seven middle-aged, African American women, that they believed that their physical activity levels would improve with enhanced social support for physical activity provided by family, friends and church members. The church usually is a location that can accommodate all of these needs. In the United States, church attendance is very common (Pfeiffer et al., 2011) and has been suggested as a location to help improve the health of African Americans, and weight loss in African American women (Murrock & Gary, 2010; Pfeiffer et al., 2011; Strawbridge, Shema, Cohen & Kaplan, 2001). For example, in a study by Pfeiffer and associates (2011), they found there was a significant relationship between church attendance and physical activity among African American adolescent females. This suggests that the same may be true for African American adult females. In a study on 1500 male and female adults in Texas by Hill, Burdette, Ellison, and Musick, (2006), those who attended religious services weekly were 1.7 times more likely to walk five or

more days a week and 1.8 times as likely to participate in strenuous exercise three or more days a week than those who did not attend religious services. Many churches have a gymnasium or large recreational space where athletic competitions and other physical activity can take place and, according to previous research, proximity of recreational facilities is associated with increased physical activity among adults (Pfeiffer et al., 2011). Church-based programs have been found to positively influence health-related lifestyle changes in African Americans (Murrock & Gary, 2010) and in one study a focus group of African American men and women mentioned having physical activity programs in church would help them be more physically active (Bopp et al., 2007).

Dance has been inseparable from spiritual practice since the beginning of humankind (Clemente, 2008). In the African American culture, dance demonstrates strong themes of spirituality and philosophical concern as shown in sacred dance or dancing performed in religious worship (Hazzard-Gordon, 1991). As a whole, African Americans have a high level of religiosity and use religion, prayer and their church for social support and to contribute to their physical health (Yanek et al., 2001; Fitzgibbon et al., 2005; Annesi, 2007; Wilcox et al., 2007; Bopp et al., 2009). This is why researchers tend to direct their efforts to the church when trying to reach this population. Churches have been central intervention sites for everything from blood pressure control to smoking cessation to weight loss programs (Yanek et al., 2001; Wilcox et al., 2007; Baldwin et al., 2007; Williamson & Kautz, 2009).

In regards to weight loss programs, churches are well-suited to identify and prioritize the health problems within their congregation and to address the needs of

fellow members in a setting of prayer, support and trust (Baruth & Samuel, 2010). Based off results from a physical activity telephone survey of members of African Methodist Episcopal (AME) congregations in South Carolina, Bopp et al. (2006) suggested interventions should target one or all of three areas: psychological (improving self-efficacy and physical activity enjoyment), sociocultural (improving social support and building the social environment in the church), and environmental (creating easily accessible physical activity programs in churches). In regards to weight loss, several programs have focused on the environmental area in churches targeting nutrition where others have combined physical activity with nutrition. However, there have been few studies where the focus was primarily to increase physical activity among the members while targeting all of the three areas that Bopp et al., (2006) mentioned in their study. Also, few have focused on dance as the primary form of physical activity. Overall, results from church-based/faith-based studies have had mixed results (Fitzgibbon et al., 2005; Annesi, 2007; Wilcox et al., 2007; Bopp et al., 2009; Baruth et al., 2010). For example in a study by Wilcox et al. (2007), the Health-e-AME project had an 8-week volunteer-led program that taught behavior change skills for physical activity and healthy eating. It consisted of three programs: praise aerobics, chair exercises, and walking programs. This initiative did not specify an aerobic dance element and ultimately resulted in no significant changes in moderate-intensity physical activity participation, meeting physical activity recommendations, or physical activity stage of readiness. Faith on the Move (Fitzgibbon et al., 2005) was an intervention that estimated the effects of adding a formal faith-based component to a culturally tailored weight loss intervention conducted outside of the church setting using 45-minute

standard aerobic sessions. This intervention had positive results with significant changes in weight loss and BMI in their faith-based weight loss group as compared to the group without the faith element. As with Health-e-AME, this intervention did not specify if the standard aerobic sessions were dance-related. Also, this one was targeting the sociocultural aspect as mentioned by Bopp et al. (2006).

Sisters in Motion, one of the first physical activity interventions designed to specifically target sedentary, older, African American women, resulted in increased walking behavior six months after intervention onset (Duru, Sarkisian, Leng & Mangione, 2010). This intervention included a line dance component as well as other activities based off the National Institute of Aging. The women in the faith-based intervention arm had reported lower systolic blood pressure at follow-up than the control group. This study targeted all three areas of focus as described by Bopp et al. (2006). In other studies, culturally-specific dance to gospel music among sedentary African American women from two Baptist churches resulted in reduced BMI and decreased body fat (Murrock & Gary, 2008; 2010). In a similar study by Murrock and associates (2009), the African American women who had participated in the culturally specific dance intervention reported they felt camaraderie, enjoyment, laughter and acceptance in the dance group with their biggest barrier from going to the classes being life circumstances. These studies also focused on all three areas of concern as mentioned by Bopp et al. (2006). These studies had high participation because the participants agreed the intervention understood the importance of church in their life, their spirituality, their values and beliefs, the importance of dancing along with other African American women, and their role as African American women (Murrock & Gary, 2010).

APPENDIX B
ADDITIONAL TABLES

Table B.1

Descriptive Data (Age in Years, Mass in kg, Stature, BMI)

Race	N	Age yrs.	Mass kg	Stature cm	BMI
Indian	2	48	70.5	158.75	27.86
African American	100	42.14	83.0	164.31	30.69
Hispanic	2	37.5	93.2	160.02	36.31
Bi-Racial	1	31	118.2	172.72	39.53
Overall Mean	N=105	42	83.0	164	30.83
Overall SD		11.7	18.5	7.32	6.5

Table B.2

Descriptive Data (Age in Years, Stature in cm, BMI, TLT Activity, and 7-Day Sweat) for African American Participants

Variable	Mean	SD	Min	Max
Age	42.14	11.82	21	69
BMI	30.69	6.53	14.98	51.75
Stature cm	164.31	7.38	134.62	180.34
Total Leisure Time	92.10	71.51	0	390
Seven day Sweat	1.76	.71	1	3

Table B.3

Descriptive Data Including Mean, SD, Skewness and Kurtosis for Survey Variables

	Subtest	Questions	Source	Mean	SD	Skewness	Se skewness	Kurtosis	SE Kurtosis
Expectancy related beliefs	Beliefs about ability	How good are you at soul line dancing?	Xiang	3.69	.91	-1.59	.24	2.21	.478
		If you were to rate yourself on soul line dancing what would your rating be?							
	Expectancies for success	Compared to your regular form of dancing, how good are you at soul line dancing?	Xiang	3.997	.74	-1.26	.24	2.63	.478
		How well do you think you could learn this soul line dance routine with multiple practices?							
		How good would you be at a new routine in soul line dancing what you just participated in today?							
Subjective Task Values	Importance	For me, being good a Soul Line dancing is...	Gu	3.56	.95	-1.467	.24	-1.58	.48
		Compared to other physical activities, how important is it to you to be good at activities such as soul line dancing?							
	Interest	In general, I find learning new physical activities in aerobic dance (such as line dancing, choreographed jazz/hip hop, free-style Latin style dancing, etc.) as....	Gu	4.45	.57	-1.09	.24	2.26	.478
		How much do you like dance activities like soul line dancing?							
	Usefulness	In general, how useful was it to learn soul line dancing?	Gu	4.31	.63	-.76	.24	.71	.48
		Compared to your other physical activities, how useful is what you learned in soul line dancing?							
Intention for future participation	If your church offered soul line dancing on a regular basis for exercise, would you be interested in participating?		Gao	4.55	.72	-1.86	.24	3.39	.478
	If your church offered soul line dancing on a regular basis for exercise, to what extent would you want to start participating?								
Effort	I put a lot of effort into soul line.		McAuley	4.39	1.03	.57	.24	1.10	.48
	I tried hard while doing soul line.								
	I didn't try very hard at doing soul line.								

Table B.4

Survey Subparts and Alpha Coefficients: Previous Studies and Current

Subparts	Source	Previous Cronbach's alpha	Number of questions in the component	Cronbach's alpha
Expectancy Beliefs	Xiang et al., 2004	.87	5	.895
Subjective task values	Gu et al., 2011	.81	6	.841
Intention for future participation	Gao, 2008	.81	2	.899
Effort	McAuley et al., 1989	.84	3	.68

Table B.5

Correlations Among Variables in "Not Enough Activity" Group

Not Enough Activity (n = 81)	1	2	3	4	5	6	7
1. Beliefs about Ability	--						
2. Expectancies for Success	.78**	--					
3. Importance	.22	.45**	--				
4. Interest	.47**	.61**	.49**	--			
5. Usefulness	.31**	.46**	.50**	.64**	--		
6. Intention	.19	.30**	.41**	.46**	.69**	--	
7. Effort	.02	.21	.36**	.37**	.53**	.50**	--

Note: ** p < .01 (two tailed)

Table B.6

Correlation Among Variables in “Meets Recommendations” Group

Meets Recommendations (<i>n</i> = 19)	1	2	3	4	5	6	7
1. Beliefs about Ability	--						
2. Expectancies for Success	.87**	--					
3. Importance	.60**	.45	--				
4. Interest	.40	.61**	.46	--			
5. Usefulness	.52	.52	.54	.49	--		
6. Intention	.26	.23	.42	.49	.60**	--	
7. Effort	.20	.15	.07	.23	.54	.60**	--

Note: ** *p* < .01 (two tailed)

Table B.7

Activity by Weight Group

Weight Category	BMI	N	Minutes Vigorous (range)	Minutes Moderate (range)	MVPA (range)	# meet	# not meet
Normal	LT 30	52	25.4 (0-105)	35.2 (0-120)	86.0 (0-315)	12	40
Class 1	30.0-34.99	23	29.3 (0-150)	35.2 (0-150)	93.9 (0-450)	3	20
Class 2	35.0-39.99	15	19.0 (0-75)	32.0 (0-75)	70.0 (0-225)	3	12
Extreme	40+	10	13.5 (0-45)	34.5 (0-90)	61.5 (0-180)	1	9
Total		100				19	81

Table B.8

Frequencies/Percentage – Activity Groups on Intention Questions

<i>“...would you participate?”</i>			
	Rating	Frequency	Percent
Not Enough Activity (n = 81)	2	3	4
	3	4	5
	4	23	28
	5	51	63
Meets Recommendations (n = 19)	2	1	5
	4	6	32
	5	12	63
<i>“...to what extent...?”</i>			
	Rating	Frequency	Percent
Not Enough Activity (n = 81)	2	2	3
	3	5	6
	4	17	21
	5	57	70
Meets Recommendations (n = 19)	2	1	5
	3	1	5
	4	4	21
	5	13	68

Table B.9

Total of Intention for Future Participation (Possible Scores 2-10)

Physical Activity Group	Summed Rating	Frequency	Percent
Not Enough Activity (<i>n</i> = 81)	4	2	3
	5	0	0
	6	4	5
	7	3	4
	8	13	16
	9	10	12
	10	49	61
Meets Recommendations (<i>n</i> = 19)	4	1	5
	5	0	0
	6	0	0
	7	1	5
	8	3	16
	9	3	16
	10	11	58

APPENDIX C
SCRIPTS AND CONSENT FORM

Women's Ministry Script

Good Morning!

My name is Melanie Rose and I'm a student at UNT obtaining my Masters in Kinesiology.

I am in the process of doing my thesis project which is entitled: Soul Line Dancing among Women in the Church: An Expectancy-Value Model Approach

The reason why I have chosen to do this type of project is because I have noticed that in research for women doing physical activity in the church setting, the purpose of the interventions were mostly to prevent diseases and/or increase nutrition. These studies had mixed results and many did the same activities (i.e. walking, general aerobics, etc.) It was rare to find a study that just asked women what their preferences were for physical activities and then build from there.

So I wanted to do that just that. I figured aerobic dance is good place to start with this population. Why? Because research has proven that among women aerobic dance has been viewed as enjoyable and also it helps increase cardiovascular endurance, lower BMI, increase flexibility and a host of other positive things! There are many types of aerobic dance so it was important for me to narrow down which type to investigate. Soul Line was the choice! Soul Line is a moderate-intensity, variation of country line dancing except the music is not country music and the dance moves are similar to hip hop, stroll and cha-cha. It's made up of low-impact moves where at least one foot is always on the floor as we make lateral moves and forward/backward moves across the floor in a linear formation. You may know this from family reunions, wedding receptions or any group activities. Popular Soul Line dances are the "Cha Cha Slide," "The Wobble," and "Cupid Shuffle."

What I also noticed when researching women and physical activity in the church setting is that the church is the ideal place to reach you! This has been considered a place for trust, friendships and comfort and the accessibility of it has made it a prime location for adding physical activities!

When I used to live in Philadelphia, Soul Line classes were very popular! They lasted about 45 minutes and really left you sweating, yet wanting more in the end! People usually came back and filled the classes every week! Also, I know from conversations with women and my own personal experience, that when certain songs come on at receptions or family reunions (i.e. "Cha Cha Slide") many women run to the dance floor and will dance for six or more minutes straight. So I'd like to see if you perceive Soul

Line as interesting enough to participate in for 45 minutes? What if it were offered on a regular basis at your church, would you be interested in participating?

So today we're going to do a little Soul Line just for 20 minutes. I will lead you through a series of three popular Christian-based gospel songs of varying tempos. Don't worry, I am an ACE certified group fitness instructor as well as CPR/AED certified with the American Heart Association so I will start with the basic moves and provide modifications for those who need them.

After those 20 minutes, I will give you my questionnaire to fill out. The goal of this exercise is to experience what Soul Line is and to participate in it for more than one or two songs. Then decide if you would consider this an activity that you would be interested in participating in as a form of exercise for 45 minutes on a regular basis. There will be general demographic questions then they will cover your beliefs about your ability to do the dance, your subjective task values (meaning the level of importance and interest this activity would be to you), intention for future participation and the level of effort you think you would be put into this activity. Then it will ask you about your general physical activity engagement throughout the week.

This is set to be a fun activity so do your best! Feel free to grab water in between songs as needed. Are there any questions before we get started??

If not, let's do a quick gear check. There is a risk of tripping so let's make sure our shoe laces are tied, our pant cuffs are rolled up if too long, and we are about arm's length away from the person next to and in front of us! Also, there may be a turn or two in the routine. This may cause dizziness for some people. I will have modifications that are very basic which will omit any turning as an option for you. Remember, this is YOUR experience. Listen to your body and only do what YOU can do!

You have the consent form in front of you. I have explained to you the reason why I am doing this research and what I'm planning on doing today. Participating in this activity and filling out the questionnaire is totally voluntary. All of the information will be kept confidential and only used for this research purpose. If you would like to participate today, please sign out the consent form and we will get started!

IRB Consent Form

University of North Texas Institutional Review Board

Informed Consent Form

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose, benefits and risks of the study and how it will be conducted.

Title of Study: Soul Line Dancing among Women in the Church: An Expectancy-Value Model Approach

Student Investigator: Melanie Rose, University of North Texas (UNT) Department of Kinesiology, Health Promotion and Recreation

Supervising Investigator: Dr. Allen Jackson, University of North Texas (UNT), Department of Kinesiology, Health Promotion and Recreation

Purpose of the Study: You are being asked to participate in a research study which involves dancing as a form of physical activity while in the church setting. The particular dance we'll be looking at is a version of line dancing called Soul Line Dance. Your participation is important for understanding how this form of physical activity interests you.

Study Procedures: You will be asked to listen to a brief description of the benefits of exercise among minorities and women. Then line dancing will be described in depth in case anyone is new to the idea. Then the student investigator will lead the group in a 20 minute Soul Line Dance class. Immediately after there will be a questionnaire distributed to determine your views on line dancing and physical activity in general. The entire process will take approximately 45 minutes of your time.

Foreseeable Risks: The potential risks involved in this study are slight muscle soreness in the legs if this activity is new to you. There will be lateral moves as well as forward/backward moves so slight dizziness could occur. Sprained ankles, pulled muscles and trip and fall accidents are foreseeable risks. There will be appropriate stretching before and afterward (to appropriately warm up our muscles) as well as a "gear check" to make sure there are no hazardous pieces (i.e. shoe laces) in the way.

Benefits to the Subjects or Others: The benefit in participating in this study for you is to determine whether or not line dancing would be an activity you would be interested in

participating in regularly. We also hope to learn more about resourceful methods to increase physical activity among women in general. The results from this study may contribute to the field of Kinesiology, Cultural Studies and Wellness programs by determining motivational factors in creating exercise programs in the future for this demographic as well as others.

Compensation for Participants: None

Procedures for Maintaining Confidentiality of Research Records: The confidentiality of your individual information will be maintained in any publications or presentations regarding this study. Any identifying information and coded survey results will be in separate locations.

Questions about the Study: If you have any questions about the study, you may contact Melanie Rose at melanierose@my.unt.edu or Dr. Allen Jackson at allen.jackson@unt.edu

Review for the Protection of Participants: This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 565-3940 with any questions regarding the rights of research subjects.

Research Participants' Rights:

Your signature below indicates that you have read or have had read to you all of the above and that you confirm all of the following:

- Dr. Allen Jackson and Melanie Rose has explained the study to you and answered all of your questions. You have been told the possible benefits and the potential risks and/or discomforts of the study.
- You understand that you do not have to take part in this study, and your refusal to participate or your decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel may choose to stop your participation at any time.
- You understand why the study is being conducted and how it will be performed.
- You understand your rights as a research participant and you voluntarily consent to participate in this study.
- You have been told you will receive a copy of this form.

Printed Name of Participant

Signature of Participant

Date

For the Student Investigator or Designee:

I certify that I have reviewed the contents of this form with the subject signing above. I have explained the possible benefits and the potential risks and/or discomforts of the study. It is my opinion that the participant understood the explanation.

Signature of Student Investigator

Date

Recruitment Letter

Soul Line Dancing among Women in the Church: An Expectancy-Value Model Approach

(Recruitment Material –Email Script/In-Person script)

Hello Leaders of _____ Church!

My name is Melanie Rose and I am a graduate student at The University of North Texas getting my M.S. in Kinesiology. My area of interest in this subject is with exercise psychology because I want to know what major barriers/enablers for physical activity there are for the average person, outside of athletes. I have noticed that women (especially minorities) typically have the highest prevalence of obesity, hypertension and diabetes and I want to figure out different methods to getting women more involved in being physically active.

The church setting has been proven to be a great place to reach women who may and may not exercise regularly. I have also noticed that aerobic dance is an activity that has been proven to be of interest to women. So the main purpose of my study is to investigate if a certain type of low-moderate intensity aerobic dance, Soul Line dancing, in the church setting would be of interest to women enough to increase their physical activity levels.

I plan on recruiting women at their already-scheduled women's ministry meetings. Self-reported information on age, sex, and race will be obtained from the questionnaires to characterize the sample. Then the women who consent will participate with me in a 20-minute group Soul Line routine, then complete self-reported scales to measure their motivation, physical activity behaviors, effort, and intention.

There is no known major risk to the participants. Every effort will be made to maintain the confidentiality of the study records. Files will be kept in secure cabinets to which only the investigators have access. In addition, participants cannot be identified in the research data directly or statistically, and no one can track back from research data to identify a participant.

Your church is a prominent church in the Dallas/ Fort Worth area and I was wondering if you would mind helping me with my thesis project? Any assistance would be greatly appreciated!

If you have any questions about the study, you may contact Dr. Allen Jackson at (940) 565-3417, Physical Education Building

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