BODY IMAGE AND PREGNANCY:

APPLICATION OF THE THEORY OF REASONED ACTION

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ABSTRACT

Past research has demonstrated that there are numerous medical and psychological consequences when a woman with an eating disorder becomes pregnant. There has been a paucity of research, however, examining the attitudes towards pregnancy of women with body image issues/eating disorders and how these attitudes subsequently affect intentions to become pregnant. The present study examines intentions to become pregnant among a sample of women ranging in level of body image concerns using the Theory of Reasoned Action (TRA) as a framework (Ajzen & Fishbein, 1980). Two hundred and forty-two females from an introductory psychology class completed a questionnaire, including the Eating Disorder Inventory (Garner, 1991) and specific scales targeting the components of the TRA developed for the present study.

As expected, all TRA precursors to intentions were positively correlated with intentions to become pregnant, while contrary to predictions, body image was not correlated with intentions. In partial support of the TRA, a multiple regression analysis revealed that, for all participants, the subjective norm of pregnancy and perceived benefits of pregnancy were predictive of intentions to become pregnant. Perceived costs of pregnancy, however, evidenced no ability to predict intentions to become pregnant.

Although results failed to support the prediction that those with high body image concerns would indicate a lower intention to become pregnant, significant differences among those with high versus low body image concerns did emerge. Specifically, participants with high body image concerns reported greater perceived costs of pregnancy as well as a greater likelihood of engaging in weight control behaviours during pregnancy. Implications, as well as practical applications of these findings are discussed.

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1. INTRODUCTION

Women today appear to be experiencing overwhelming dissatisfaction with their bodies. In the United States it has been estimated that 80% of women are unhappy with their appearance (Smolak, 1996). As a result of this unhappiness with one's appearance, it is further estimated that Americans spend over $40 billion on dieting and diet related products each year and that on any given day, 45% of American women are on a diet (Smolak, 1996). In addition, a survey of college women revealed that 91% had attempted to control their weight through dieting and that 22% "often" or "always" dieted (Kurth, Krahn, Nairn & Drewnowski, 1995).

The prevalence of dieting and other weight control behaviours is further demonstrated by a comprehensive review of the literature pertaining to the epidemiology of bulimia nervosa (Fairburn & Beglin, 1990). Specifically, Fairburn and Beglin (1990) reviewed 16 studies in which participants completed questionnaires that were designed to elicit information pertaining to the core features of bulimia. Based on this review, the prevalence rate of strict dieting and fasting was estimated to be at 29%, binge eating at 36%, vomiting at 8%, and laxative misuse at 6% (Fairburn & Beglin, 1990).

While it would appear that the majority of women engage in some type of weight-loss behaviour in an attempt to become more satisfied with their appearance, it is important to note that 35% of 'normal dieters' progress to pathological dieting (Shisslak, Crago, & Estes, 1995). Of those, 20 to 25% then progress to partial or full-syndrome eating disorders (Shisslak, Crago, & Estes 1995). In the United States alone, it is estimated that between five and ten million girls and women suffer from an eating disorder such as anorexia nervosa, which is characterized by a severe and selective

restriction of food intake in order to achieve an extremely low weight; and bulimia nervosa, characterized by recurrent binge eating followed by self-induced vomiting or laxative misuse (Dare & Crowther, 1995).

Given these statistics, it is of little surprise that past research has demonstrated that a small percentage of women (10-20%) are suffering from disordered eating when they become pregnant (Abraham, King, & Llewellyn-Jones, 1994). It has been well documented that there are numerous serious medical and psychological consequences when a woman with an eating disorder becomes pregnant (For example, Bulik, Sullivan, Fear, Pickering, Dawn, & Mcullin, 1999; Franko & Walton, 1993). There is, however, a paucity of research examining the attitudes towards pregnancy of women with body image issues (and to the extreme, eating disorders), and how these attitudes subsequently affect intentions to become pregnant. The current study undertakes to expand upon the knowledge base pertaining to pregnancy and body image. Specifically, the Theory of Reasoned Action will be used as a framework to examine attitudes towards and intentions to become pregnant within a sample of women with varying degrees of body image concerns. Prior to examining the theory of reason action in detail and applying it to the issue of body image and pregnancy, the current literature pertaining to body image during pregnancy, pregnancy and eating disorders, and the mixed messages women receive regarding the thin ideal and societal pressure to parent will be examined.

1.1 Body Image During Pregnancy

Pregnancy is a time in which drastic changes to a woman's body are experienced. Although these changes, such as weight gain, can be considered a natural part of pregnancy, many women experience difficulty accepting the changes to their body while pregnant. Fox and Yamaguchi (1997) asked 76 women who were at least 30

weeks pregnant, to complete a questionnaire pertaining to current feelings about appearance and body shape. They concluded that 67% of the women in their sample who were normal weight prior to pregnancy reported a negative change in body image. The reasons offered for this negative change centered around feelings of self-consciousness, not being in control of body weight, and feeling less physically and sexually attractive (Fox & Yamaguchi, 1997). The comments the women provided exemplify the difficulty they had in fully accepting the normal and desirable physical changes experienced during pregnancy.

Interestingly, for the women participating in the study who were overweight prior to pregnancy, the converse was found (Fox & Yamaguchi, 1997). That is, of the overweight women, 62% experienced a *positive* change in body image and reported that they felt less self-conscious, more positive about public scrutiny, and free from the stigma of being overweight and the pressure to diet. This would suggest that, for these women, pregnancy was a time in their life when weight gain (and being overweight) was considered acceptable by others; they were no longer viewed by others as overweight, but simply as pregnant.

Fairburn and Welch (1990) also found that changes to one's body when pregnant were often not viewed positively. The authors interviewed 50 first time mothers three days after giving birth regarding their eating habits and attitudes toward their shape and weight during pregnancy. In general, it was found that those most concerned with their shape prior to pregnancy were more likely to dislike changes to their bodies when pregnant. For example, the three women who chose to diet during pregnancy also belonged to the group that had dieted in the past. In relation to weight gain during pregnancy, 24% of the women were distressed by the weight gain, 40% were concerned

with gaining too much and three quarters of the sample feared that they would not be able to return to their prepregnancy weight (Fairburn & Welch, 1990).

Similar findings also emerged from a study in which pregnant adolescents were asked to keep personal diaries for six weeks in order to record their perceptions of self and body (Stenberg & Blinn, 1993). The diary entries revealed that they felt negatively about themselves and the changes to their bodies, often describing themselves as being “fat”, “huge”, and “ugly”. Considering the negative impact pregnancy can have on body image for women not previously suffering from severe body image issues, it is important to examine the literature on the impact pregnancy can have for women with eating disorders.

1.2 Pregnancy and Eating Disorders

While eating disordered behaviours subside during pregnancy for some women, the need to control ones’ weight through methods such as food restriction, binging, vomiting, and laxative abuse does not lessen for others (Lemberg & Phillips, 1989). In their retrospective study of 43 women who had an active eating disorder during the six months prior to their first pregnancy, Lemberg and Phillips (1989) found that 70% reported an improvement in their eating behaviour during the pregnancy. It is important to note, however, that this study relied on self-report data. It is therefore possible that the large percent of women reporting an improvement was due to responding in a socially desirable manner. However, despite the potential of this response bias, there was still a significant number of women who reported that they continued to restrict food intake, binge, vomit, and/or abuse laxitives. Furthermore, it was found that for 18.6% of the women suffering from bulimia, the occurrence of binging and vomiting worsened (Lemberg & Phillips, 1989).

For women who continue to engage in eating disordered behaviours during pregnancy, there are numerous negative medical consequences that may be experienced by the pregnant woman and infant. For example, Abraham (1998) found that women with current or past histories of bulimia nervosa suffered a significantly greater number of miscarriages. For those women who did carry the infant to full-term, they were more likely to have an infant below expected weight for gestational age.

Serious medical consequences for the mother and infant have also been found for those suffering from anorexia nervosa. A retrospective study was carried out by Bulik et al. (1999) in which the gestational and obstetric outcomes were examined for 66 anorexic patients and 98 comparison women. Similar to Abraham's (1998) findings for bulimia, the group with anorexia nervosa experienced a higher number of miscarriages, lower birth weights, more premature births, and more cesarean sections. Thus, women suffering with an eating disorder when they become pregnant are more likely to experience a miscarriage or to deliver an infant of low birth weight which is also equated with potentially more negative outcomes in the future, such as delayed development (Franko & Walton, 1993).

Along with these medical consequences when a woman with an eating disorder becomes pregnant, psychological consequences experienced by the mother have also been demonstrated. Three case studies reported by Hollifield and Hobdy (1990) highlighted the feelings of fear, guilt, and shame experienced by the women due to the fact that they continued to engage in eating disordered behaviours while understanding that their behaviour may be detrimental to the unborn baby. It was also found that they were very secretive about their behaviour and minimized and/or lied about their eating behaviours to their friends and family (Hollifield & Hobdy, 1990).

Not only are friends and family often unaware of the continued eating disordered behaviours, but obstetricians are also left unaware of their patients' eating disorder (Lemberg & Phillips, 1989). Lemberg and Phillips (1989) concluded that fewer than 50% of the 43 participants with an active eating disorder had disclosed to their obstetrician about their condition. Not only are women unlikely to disclose to their obstetrician if they suffer from an eating disorder, it also appears that obstetricians underestimate the prevalence of the problem. For example, Abraham (2001) found that only 18% of the 67 obstetricians included in the study asked their patients about eating disorders and only 19% asked about weight loss behaviours. Findings such as these demonstrate that people who play a key role during a woman's pregnancy are likely not fully aware of the extent of the problem of eating disordered behaviours during pregnancy. This lack of awareness means that these women are less likely to receive either psychological help or to be monitored closely to ensure their health and the health of the unborn baby, thereby increasing the likelihood of negative outcomes of the pregnancy.

Perhaps due to the fact that eating disordered women are likely to remain secretive about their behaviours during pregnancy and do not seek psychological treatment, it has also been found that these women experience higher rates of postpartum depression compared to non eating disordered women. Franko et al. (2001) obtained the medical records and self-report data from 49 women with a history of disordered eating who had recently given birth. Of these women, 2 suffered from anorexia nervosa with restricted intake, 16 with anorexia nervosa with binging or purging, and 31 with bulimia. While the prevalence of postpartum depression in the general population is estimated at 3-12%, it was found that the rate for these participants was 34.7% (Franko et al., 2001).

For those women with symptoms of an eating disorder throughout the pregnancy, this rate increased to nearly 50% (Franko et al., 2001).

Kye (2002) questioned whether the participants' lifetime history of affective disorders were a function of the high rates of postpartum depression found by Franko et al. (2001). In response to this critique, Franko et al. (2002) note that depression was measured six months prior to the participants becoming pregnant with the finding that depression prior to pregnancy was not predictive of postpartum depression. Thus, it would appear that the rates found by Franko et al. (2001) are indicative of postpartum depression and are not simply reflective of generalized depression.

These research findings clearly exemplify that there are numerous negative consequences, both psychological and medical, when a woman with an eating disorder becomes pregnant. Even more importantly, the findings demonstrate that pregnancy is not seen as an "out" for these women in terms of feeling it is acceptable to gain weight. Rather, some continue to engage in eating disordered behaviours as a drastic means of controlling weight during a time in which weight gain is necessary and healthy.

The current literature indicates that both eating disordered and non-eating disordered women continue to be concerned with body image during pregnancy. For women suffering from eating disorders, this is manifested by continuing to engage in numerous unhealthy behaviours such as restrictive eating, binging, purging, and laxative misuse. For non-eating disordered women, the continued concern with body image is exemplified by the negative feelings many women feel toward the changes to their bodies. It can be argued that this evidenced dislike of one's body during pregnancy relates to the inability to achieve the thin ideal, an ideal that is so strongly endorsed by society. Thus, during a time in which weight gain is inevitable and, in fact, desirable,

the societal pressure to conform to the thin ideal may be so strong that changes to the body during pregnancy are difficult for many women to accept. What now must be asked is "why is this thin ideal is so desirable to achieve?" and, more importantly, "who acts as messengers of the thin ideal?".

1.3 The Thin Ideal

Encompassed in the notion of the thin ideal is not only the way in which women should look but also how they are defined by achieving this standard of beauty. That is, by striving to achieve the thin ideal, a woman will tend to be viewed as being attractive, successful, desirable, intelligent, and friendly (Nagel & Jones, 1992). Conversely, a woman considered to be obese by our weight obsessed society is looked at in terms of numerous negative attributes such as lazy, sloppy, and dirty (Nagel & Jones, 1992). This strong bias against those who do not conform to the thin ideal was demonstrated by Neumark-Sztainer, Story, and Faibisch (1998) who interviewed 50 overweight adolescent girls regarding their weight related experiences. Results revealed that 96% of the participants reported negative experiences because of their weight, including hurtful comments, derogatory names, teasing, and jokes, leading them to feel ashamed and humiliated (Neumark-Sztainer et al., 1998).

Further evidence of the stigmatization experienced by the overweight was presented by Puhl and Brownell (2001) based on a comprehensive review of the pertinent literature. Specifically, it was found that, compared to their thinner counterparts, overweight individuals are less likely to attend college or receive college funding, even though their academic and test scores are similar; are hired less often; and earn 12 percent less on average (Puhl & Brownell, 2001). Considering the numerous negative experiences faced by the overweight, it is of no wonder that women will go to

extreme lengths, even during pregnancy, to conform to the thin ideal. Where then is the pressure to meet an ideal standard of what is considered beautiful coming from? As past research has found, and as will be discussed, the pressure appears to come from many different sources including the media, close family members, and peers.

1.3.1 Role of mass media. It has been argued that the mass media acts as one of the strongest messengers of the thin ideal. This notion is supported by the finding that over the past 40 years, the ideal body shape found in the mass media has become increasingly thinner while the rate of eating disorders has increased (Weeda-Mannak, 1990). Specifically, it has been reported that most fashion models are thinner than 98% of women in the United States, with the average model being 5'11" tall and 117 pounds while the average woman is 5'4" tall and 140 pounds (Smolak, 1996). Thus, there is a large discord between what the average woman actually looks like and what the mass media is subtly and not so subtly saying women *should* look like. As suggested by Stice, Schupak-Neuberg, Shaw, and Stein (1994) this discordance and the subsequent pressure that the mass media places on women to meet a standard of beauty that is largely unattainable, has a direct impact on the occurrence of eating disorder symptoms.

Stice et al. (1994) asked 238 women in introductory psychology and sociology classes to complete a questionnaire measuring their degree of media exposure (including magazines and television), gender-role endorsement, body dissatisfaction, and eating disorder symptomatology. In support of their hypotheses, the results of structural equation modeling revealed that exposure to the media-portrayed thin ideal had a direct impact on eating disordered behaviour. Furthermore, media exposure of the thin ideal predicted greater gender-role endorsement which, in turn, predicted increased body dissatisfaction.

The role of the media was also examined by Morry and Staska (2001). Specifically, Morry and Staska (2001) developed the Magazine Exposure Scale in order to examine participants' exposure to ideal body images presented in women's beauty magazines. Participants also completed the Eating Attitudes Test in order to measure eating disorder symptomatology. As with the previous study, it was found that women who read beauty magazines had a greater concern about their physical appearance and exhibited more disordered eating behaviours than those who did not.

An interesting study that found further support of the role of the mass media was carried out by Baker, Sivyer, and Towell (1998). Their study included a sample of congenitally blind women who were found to have less negative body dissatisfaction scores as compared to those with acquired blindness or sighted women. This finding suggests that the perceived pressure to conform to the thin ideal is not as relevant for the visually impaired women because they are not exposed to and inundated with images of how the perfect woman should look.

1.3.2 Role of family. Although the mass media has been viewed as one of the main avenues of placing pressure on women to obtain a standard of beauty that is largely unrealistic, it has been found that the value of the thin ideal can also be passed on by family members (Wertheim, Mee, & Paxton, 1999). Specifically, 369 grade 10 girls and their parents completed questionnaires pertaining to body figure ratings, eating behaviours, and parental encouragement of the daughter to lose weight. Wertheim et al. (1999) concluded that parents' encouragement to lose weight predicted daughter's dietary restraint. As well, parents' food abstaining behaviours, such as fasting and skipping meals, also predicted the likelihood of daughters engaging in this behaviour. Thus, many of the girls received direct parental encouragement that they should lose

weight while observation of parents' unhealthy eating behaviours led some daughters to also engage in unhealthy methods to become thinner.

The results described above were also replicated by Wertheim, Martin, Prior, Sanson, and Smart (2002). This study included 1206 parent-child pairs who completed the Eating Disorder Inventory, body figure ratings, and items pertaining to parent/child dieting behaviour and encouragement to diet. Once again, it was found that encouragement to diet strongly predicted dieting behaviour of the child. Specifically, children's drive for thinness and body dissatisfaction were related to parental encouragement to diet, independent of the child's size. Thus, while some of the children who were encouraged to diet were overweight, others were being encouraged to diet when it was not necessary, clearly demonstrating that girls are pressured to conform to a thin ideal by those who have a great deal of influence in their lives.

Lastly, Haworth-Hoeppner (2000) examined ways in which the family mediates the societal value of the thin ideal that is so prevalent in North America. Haworth-Hoeppner argues that the extent and manner in which family members transmit societal messages about thinness will influence the development of eating disordered behaviours. In order to explore the mediation of the societal value of thinness by family members in the development of eating disordered behaviours, open-ended interviews were conducted with 32 women between the ages of 21 and 44.

The family characteristics that influenced the development of eating disordered behaviours included a critical family environment, coercive parental control, and a main discourse on weight. This discourse on weight included parental dieting concerns, criticisms of the daughter's weight or appearance, and prejudicial attitudes involving weight. Thus, once again it would appear that the pressure placed on the women by

family members to look a certain way played a significant role in the development of eating disordered behaviours. However, it is recognized by Haworth-Hoeppner (2000) that the discourse on weight takes place within the larger societal context in which thinness is highly valued; without this value, encouragement/pressure to look a certain way would likely not be present.

Young girls and women are inundated by the mass media and the images that are viewed are those of thin, beautiful women who epitomize ‘having it all’. However, the closer sphere of the family unit can also act as a direct messenger of the thin ideal, resulting in daughters who engage in dieting and other weight loss behaviours that, in extreme cases, are unhealthy and dangerous. Not surprisingly, the peer group in which adolescents often turn to for their main source of support and information, has also been found to be very influential in the quest for the thin ideal.

1.3.3 Role of peers. Lieberman, Gauvin, Bukowski, and White (2001) examined the role of peer modeling and social reinforcement of disordered eating behaviours with a sample of 876 girls in grades 7 –10. Participants completed measures pertaining to eating disordered behaviours, body esteem, social reinforcement, peer modeling and peer teasing. It was found that both positive reinforcement of weight loss efforts and peer modeling contributed to bulimic behaviour and restrictive dieting. Negative reinforcement also played a role as indicated by the finding that those who experienced peer teasing regarding weight were more likely to engage in restrictive dieting as compared to those who did not experience peer teasing (Lieberman et al., 2001).

The influence of family, peers, and the media in the development of eating disordered behaviours (i.e. binging and purging) was examined by Stice (1998). Specifically, Stice (1998) sought to test whether social reinforcement of the thin-ideal

and modeling of eating disordered behaviour by family, peers, and the media were related to bulimic symptoms in a sample of 114 female undergraduates.

Results indicated that family, peers, and media social reinforcement of the thin-ideal were positively correlated with bulimic symptoms. As well, family and peer modeling of the eating disordered behaviour strongly predicted bulimic symptoms while media modeling was not found to have an influence (Stice, 1998). This study exemplifies that family, peers, and the media may all play a role in the development of eating disordered behaviours by modeling and/or reinforcing the behaviour.

These findings demonstrate that women feel pressure from numerous sources to conform to the thin ideal. Women are inundated with images in the media that delivers the message that in order to be the ‘perfect woman’ one must look a certain way. This message can also be received more directly from family members and peers. As previous research has shown, these close, significant others are a powerful force in encouraging/pressuring young girls and women to engage in behaviours that will help them conform to a standard of beauty that is wholly unrealistic. And yet, women continue to try and conform to this impossible ideal, resulting in eating disorders in the extreme case and body image issues for most. It must be recognized, however, that a second pressure is placed on women that makes it very difficult to conform to the pressure of achieving the thin ideal, that of having children.

1.4 Societal Pressure to Parent

While women are told directly or indirectly that they should conform to an unrealistic standard of beauty, they also receive the message that part of their role as women is to have children (Gillespie, 2000). As Gillespie (2000) states, “Motherhood has predominantly been perceived as natural for women, the desire for it inevitable,

unquestioned and central to constructions of 'normal' femininity" (p.223). This statement directly reflects the dominant societal norm prescribing children, which is so largely accepted that having children may seem like a natural part of life rather than a societal pressure. In support of the existence of the societal norm of parenthood is the finding that only 3% to 6% of married women choose not to have children (Houseknecht, 1988). When examining the reactions to those women who deviate from the pronatalist views so strongly entrenched in society, it becomes apparent that a pressure to have children does exist.

The negative reactions encountered by those who deviate from the norm of parenthood were revealed by Gillespie (2000) when she conducted qualitative interviews with 33 voluntarily childfree women. One of the dominant reactions these women faced was that others explained their failure to become mothers as being a physical illness. That is, others (e.g., family, friends, coworkers) disbelieved that the women would actually *choose* not to have children and that the lack of children must be due to infertility. This exemplifies the dominant belief that motherhood is a *natural* part of being a woman; if a woman does not have children, then there must be something physically wrong with her.

Another common reaction faced by the women was that others believed they would eventually change their mind. Often, it was thought that once they 'met the right man' the women would then settle down into their expected roles of wife and mother. Once again, it was disbelieved that the women would not want to have children, willingly foregoing their 'natural' role. The women were further told by others that if they did not change their minds and have children, that they would come to regret their

decision, exemplified by one woman being asked, "Who is going to look after you when you get old?" (Gillespie, 2000, p. 229).

Comments the women received from others sent the message that they were deviants due to their rejection of motherhood. Not only were these women viewed as deviants by family members and friends, they were also labeled with numerous negative characteristics such as selfish, unfeminine, maladjusted, unhappy, and irresponsible (Gillespie, 2000). The consequences of not conforming to the expected role of motherhood was also exemplified by a study carried out by Somers (1993). In this study, 74 voluntarily childfree women and men and 158 parents were asked to complete a survey that included a measure of stereotype perception in order to determine how childfree adults perceive themselves as being stereotyped.

Specifically, participants were asked to rate 10 bipolar traits (e.g., selfish-unselfish, normal-abnormal) based on how they thought relatives and friends viewed them. As was hypothesized, voluntarily childfree women and men perceived both relatives and friends as viewing them more negatively due to their decision not to have children as compared to the parents (Somers, 1993). These findings clearly illustrate that the dominant norm of parenthood does exist and the small percentage of women who choose not to conform to this norm are openly questioned and criticized for their decision.

1.5 Mixed Messages

Women face messages that are powerful, yet mixed. Women today are facing increased pressure from the media, friends, and family to conform to a standard of beauty that is largely unattainable. One of the results of this pressure is the body dissatisfaction felt by the majority of women and various healthy and unhealthy

behaviours being engaged in to achieve the thin ideal. However, the sources that place pressure on women to look a certain way are also similar to the sources that espouse pronatalist values. That is, it continues to be the norm, and considered ‘natural’, that women will become mothers. Just as for those women who do not conform to the thin ideal, past research has evidenced that women who choose to deviate from the societal norm of parenthood are looked at negatively by others and are defined by numerous negative attributes. Thus, women are receiving the message that they must conform to the thin ideal but that they also must become mothers, which, unless adopting child, will necessitate gaining weight during pregnancy. How then, do women deal with these two opposing pressures to be thin and to be a mother?

For women with no or few body image issues, it is possible that they are able to accept, albeit with still some difficulty, that pregnancy is a time in their lives in which weight gain is acceptable and are able to view the changes to their body as being a natural part of pregnancy. Thus, during pregnancy, the pressures to conform to the thin ideal are set aside. For women with eating disorders or high body image concerns, the two opposing pressures may be much more difficult to balance. The present study will explore what impact the opposing societal norms of the thin ideal and parenthood and attitudes towards pregnancy can have on women’s intention to become pregnant, using the Theory of Reasoned Action as a framework.

1.6 Theory of Reasoned Action

The relationship between attitudes, intentions, and behaviours has been extensively studied. It was not until the development of the Theory of Reasoned Action (TRA; Ajzen & Fishbein, 1977, 1980), however, that it became recognized that it was an oversimplification to assume intentions and behaviours were determined exclusively by

attitudes, while ignoring the impact of social influence. Rather than just examining the attitudes towards a particular behaviour, the subjective norms surrounding it should also be taken into account when determining if one intends to perform the behaviour (Ajzen & Fishbein, 1980). Thus, by expanding the theoretical antecedents of intentions and behaviours to include a social influence component, it was hypothesized that accounting for more variance in outcome variables would be possible.

The attitudinal component of the TRA is a personal factor that consists of both the individual's beliefs about the consequences of the target behaviour multiplied by their subjective evaluations of these consequences. Thus, an individual's attitude towards a behaviour is a function of the attributes one links to the behaviour and whether those attributes are judged to be positive or negative. The determination of one's attitude is described in the equation below, where A_B represents attitude toward the behaviour B; b_i is the belief that performing behaviour B will lead to outcome i; e_i is the evaluation of outcome i; and the sum is over the n, the number of salient beliefs (Ajzen, 1988).

$$A_B \propto \sum_{n} b_i \, e_i$$

As with attitudes toward the behaviour, the social factor of subjective norms consists of two antecedents. The first is the individual's belief about whether significant others feel that he or she should perform the target behaviour (i.e., the normative belief), and second is the individual's motivation to comply with significant others' wishes. Once again, these are multiplied together to form the subjective norm. The relation between normative beliefs and subjective norms is expressed in the mathematical equation below, where SN is the subjective norm; b_j is the normative belief concerning

the referent j; m_j is the person's motivation to comply with referent j; and n is the number of salient normative beliefs (Ajzen, 1988).

$$SN \propto \sum_{n} b_j \, m_j$$

The Theory of Reasoned Action posits that the direct antecedent of any volitional behaviour is the *intention* to perform the behaviour; the stronger the intention, the greater the likelihood that the behaviour will be performed. According to the theory, the intention to behave is determined by both the attitudes toward the behaviour and the subjective norms, as described above. A diagram of this model is shown in Figure 1.

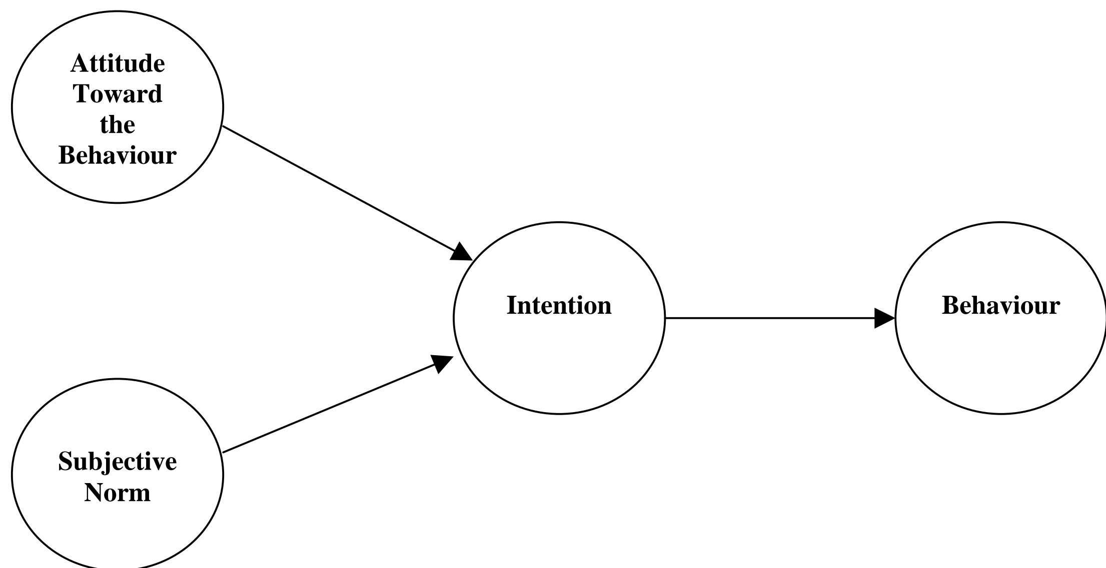

Figure 1. Theory of Reasoned Action

1.6.1 Application of the Theory of Reasoned Action to the present study. In relation to the present study, the attitude toward the behaviour in question - becoming pregnant - refers to salient beliefs about the potential negative and positive outcomes of becoming pregnant (e.g., "I would gain weight as a result of pregnancy") and the

subjective evaluations of these outcomes, such as, "Gaining weight as a result of pregnancy would be… (*extremely undesirable* to *extremely desirable*)".

For the second major determinant of behavioural intentions, subjective norms refers to the perceived pressure to comply to the norm of pregnancy and thinness (e.g., "My mother thinks I should someday become pregnant"; "My mother thinks I should be thin") as well as the motivation to comply to the various referents (e.g., "I am motivated to act in line with my mother's opinion about becoming pregnant"; "I am motivated to act in line with my mother's opinion about being thin").

Although past research utilizing the TRA has consisted of one subjective norm that relates directly to the behaviour in question, the current study proposes that both the subjective norms regarding pregnancy *and* thinness should be included in order to adequately understand intentions to become pregnant for women with high body image concerns. This inclusion of the two subjective norms highlights the possibility that when examining certain behaviours, it may be an oversimplification to assume that individuals perceive of there being only one social pressure impacting his or her decision to perform the behaviour in question.

It is important to note that due to the nature of the behaviour in question for this study (i.e., pregnancy), the focus will be strictly on the *intention* to become pregnant. To determine the prospective relation between intention to become pregnant and actually becoming pregnant would involve extensive follow-up research that is beyond the scope of this study. However, past research examining other types of behaviour (such as safe sex; Fisher, Fisher, & Rye, 1995) has demonstrated that there is a strong intention-behaviour correlation, suggesting that examining only intentions may be a significant predictor of future behaviour.

Since its development, the Theory of Reasoned Action has been effectively utilized to examine a plethora of behaviours such as adolescent sexual behaviour (Flores, Tschann & Marin, 2002), marijuana use (Morrison, Golder, Keller & Gillmore, 2002), and gambling behaviour (Moore & Ohtsuka, 1999). While the Theory of Reasoned Action has also been utilized extensively to examine behaviours related to pregnancy and parenting [e.g., breastfeeding (Klowblen-Tarver, Thompson, & Miner, 2002); drug use (Morrison, Spencer, & Gillmore (1998); adoption (Cervera, 1993)], a review of the literature reveals that the theory has not been implemented in order to examine the intention to become pregnant for women with body image issues and/or eating disorders. The purpose of this study, therefore, is to apply the Theory of Reasoned Action in order to examine the attitudes toward pregnancy of women ranging in levels of body image concerns and how these attitudes, along with the two opposing subjective norms, subsequently affect the intentions of these women to become pregnant.

2. RESEARCH QUESTIONS AND HYPOTHESES

From the implementation of the Theory of Reasoned Action to the intention to become pregnant for women with high and low body image concerns, specific hypotheses, along with exploratory research questions, emerged regarding each component of the theory.

2.1 Testing the TRA Model

It is predicted that the Theory of Reasoned Action will account for intentions to become pregnant. That is, both attitudes and subjective norms will uniquely contribute to the prediction of the intention to become pregnant. Whether body image moderates the predictive ability of the TRA in relation to intentions to become pregnant will be explored.

2.2 Group Differences Between those with High Body Image Concerns and those with Low Body Image Concerns

As past research has evidenced, women, especially those with high body image concerns, are often unhappy with the changes to their bodies experienced during pregnancy (e.g., Fairburn & Welch, 1990; Fox & Yamaguchi, 1997; Stenberg & Blinn, 1993). It is, therefore, hypothesized that women with high body image concerns (i.e. those who score low on the Body Image Scale) will hold more negative attitudes toward pregnancy as compared to women with low body image concerns.

Due to the fact that the norms of pregnancy and thinness are so widespread with various sources acting as messengers, it is expected that all participants will perceive some pressure to conform to these norms. However, for those women with high body

image concerns, it is hypothesized that they will experience a higher subjective norm regarding thinness as compared to those with low body image concerns.

Although strictly exploratory in nature, it will be examined if the tendency for women with high body image concerns to score high on the Eating Disorder Inventory subscale for perfectionism (Meyer & Waller, 2001) will result in this population experiencing high subjective norms regarding pregnancy. That is, due to their perfectionist tendencies, it is possible that these women will desire to become the "perfect woman", which encompasses not only being thin but also conforming to the strong pronatalist values that exist in today's society.

Due to the expected negative attitudes towards the outcomes of pregnancy along with a high subjective norm regarding thinness, it is hypothesized that women with high body image concerns will have a lower intention to become pregnant.

2.3 Examination of Behaviours Engaged in if Pregnant

Based on previous findings that body image concerns and eating disordered behaviours are still present throughout pregnancy, it is hypothesized that women with high body image concerns will report a greater tendency to engage in various unhealthy weight control measures if pregnant, including excessive exercising, dieting, and smoking.

Due to the continued concerns with weight gain and body image throughout pregnancy experienced by women with high body image concerns, it is predicted that this group will report an expected weight gain less than the recommended gain of 25 to 30 pounds (Dimperio & Mahan, 1985).

Lastly, it is also tentatively hypothesized that women with high body image concerns may carry over their concerns with weight to their infant as evidenced by a desire to

have infants that are not considered ‘big’ or ‘chubby’. Therefore, they will indicate a lower expected birth weight as compared to the average birth weight of 7 pounds 5 ounces.

Support for the above hypotheses will not only further the understanding of this important issue but may also have implications for both the psychological treatment of women with eating disorders and the medical protocols used by health care providers in caring for patients with body image concerns. This study also has implications for the theoretical advancement of the Theory of Reasoned Action in that it explores the applicability of this theory to a behavioural domain in which two conflicting subjective norms may compete to influence behavioural intentions.

3. METHOD

3.1 Elicitation Research

In accordance with the Theory of Reasoned Action (Ajzen & Fishbein, 1980), elicitation research was conducted prior to the main study in order to empirically determine the salient beliefs regarding the consequences of pregnancy. Based on a convenience sample, elicitation research participants consisted of 15 women similar to those who would be participating in the main study in terms of age, martial status, and child status. During individual sessions, participants were asked an open-ended question regarding what they believe to be the outcomes of being pregnant. A content analysis was conducted in order to identify the common themes. Thirteen themes emerged which were then used in the development of the scale measuring *attitude toward the outcomes of pregnancy*.

3.2 Participants

A total of 242 students enrolled in introductory psychology courses at the University of Saskatchewan participated in this study, and all received additional credit towards their final grade. All of the participants were female, with a mean age of 19.25 years and a range of 17 to 39 years. In order to avoid measuring attitudes, subjective norms, and intentions regarding pregnancy that were influenced by the actual experience of pregnancy, data was screened to remove those who have had children. Additional participant characteristics are shown in Table 1.

Table 1
Participant Characteristics

	n	%
Marital Status		
Single	118	48.8
Committed Relationship	112	46.3
Married/Common Law	11	4.5
Divorced/Separated	1	.4
Widowed	0	0.0
Ethnic Origin		
Caucasian	208	86.0
Aboriginal	0	0.0
Metis	5	2.1
Asian-Canadian	13	5.4
African-Canadian	2	.8
Other	14	5.8

3.3 Measures (see Appendix A)

The majority of the questionnaire was designed to measure the components of the Theory of Reasoned Action in relation to the intention to become pregnant. In order to determine what factors may influence one's decision to become pregnant, the questionnaire contained separate sections pertaining to attitude toward the outcomes of pregnancy, subjective norms, and intentions to become pregnant.

3.3.1 Attitude toward the outcomes of pregnancy. The attitude toward the outcomes of pregnancy measure is a 13-item instrument consisting of two parts that assesses the belief strength associated with possible outcomes of being pregnant. The first part of the measure asked participants to rate each outcome on a 7-point scale ranging from *extremely unlikely* to *extremely likely*. Statements such as, "I would have a permanent change in weight as a result of pregnancy" and "I would feel more

unattractive as a result of pregnancy" were included based on elicitation research that had been conducted.

Immediately following each of the belief strength items were statements assessing evaluations of the possible consequences. Thus, the statement, "Having a permanent change in weight as a result of pregnancy would be…" was rated using a 7-point scale ranging from *extremely undesirable* to *extremely desirable*. The measure of belief strength with respect to each outcome was multiplied by the corresponding evaluation, and the sum over the 13 products served as a belief-based measure of attitude toward the outcomes of pregnancy. The α coefficient of this scale was .83.

3.3.2 Subjective norms. The section assessing subjective norms regarding becoming pregnant and thinness also included two parts. The first part was based on the normative beliefs concerning the expectations of ten referent groups (e.g. spouse, mother, relatives, church, mass media). Thus, participants were asked to rate, using an 8-point scale (where 8 equals *not applicable*; note that responses of *not applicable* were factored out when scoring this measure), how strongly they agree or disagree with statements such as, "My mother thinks I should some day become pregnant".

Immediately following these statements, participants indicated their motivation to comply with the referent using an 8-point scale ranging from *strongly disagree* to *strongly agree*, with 8 equaling *not applicable*. For example, with respect to the referent group of *mother*, there was the statement, "I am motivated to act in line with my mother's opinion about becoming pregnant." The same measure was repeated, referring to the subjective norm of thinness (e.g., " My friends think I should be thin"; "I am motivated to act in line with my friends' opinion about being thin"). Each normative belief was multiplied by motivation to comply with the referent, and the sum of the

products formed the measure of subjective norms. For the subjective norm of pregnancy, the α coefficient was .94, with the subjective norm of thinness having an α coefficient of .91.

3.3.3 Intentions. Three items were included to assess intentions to become pregnant. The first statement, "I intend to one day become pregnant" was rated on a 7-point scale ranging from *strongly disagree* to *strongly agree*. Participants were also asked, "How likely is it that you will one day become pregnant?". This question was rated using a 7-point scale ranging from *extremely unlikely* to *extremely likely*. Lastly, participants rated the question, "How important is it to you to become pregnant during your life?" using a 5-point scale ranging from *not at all important* to *extremely important*. The sum of the responses to these three items served as the measure of intention and had an α coefficient of .78.

3.3.4 Eating Disorder Inventory (*EDI).* The EDI (Garner, 1991) is a 91-item instrument that assesses eating disorder symptomatology and related characteristics. The questionnaire has a total of 11 subscales, three of which relate to eating and body concerns: Drive for Thinness (e.g., "I am terrified of gaining weight"), Bulimia (e.g., "I eat moderately in front of others and stuff myself when they're gone"), and Body Dissatisfaction (e.g., "I think that my stomach is too big"). The eight remaining subscales measure psychological dimensions, including Ineffectiveness, Perfectionism, Interpersonal Distrust, Interoceptive Awareness, Maturity Fears, Asceticism, Impulse Regulation, and Social Insecurity. Items were rated on a 6-point scale ranging from *never* to *always*. Past research has found support for the reliability and validity of the EDI, with reliability estimates ranging from .82 to .93 (Espelage, Mazzeo, Aggen, Quittner, Sherman, & Thompson, 2003).

For the purpose of this study, the Drive for Thinness, Bulimia, and Body Dissatisfaction subscales were combined to form the Body Image Scale - a composite scale measuring global body image concerns. Participants were then divided into two groups based on scores from this scale wherein participants scoring in the bottom third were classified as having high body image concerns (n = 81) and those scoring in the top third were classified as having low body image concerns (n = 76).[1] The Body Image Scale was found to have an α coefficient of .93.

3.3.5 Other items. Items were included in order to assess if the participants would engage in various methods of weight control behaviours *if* pregnant. Using a 7-point scale ranging from *extremely unlikely* to *extremely likely*, participants were asked, "How likely is it that you would diet/smoke/exercise during pregnancy as a method of weight control?". Participants were also asked to estimate how much weight they would expect to gain if pregnant and how much they would expect a newborn infant to weigh. Lastly, participants were asked to complete various demographic items pertaining to age, sex, marital status, if they have children, number of siblings, educational attainment, and religiosity.

3.4 Procedure

Participants were recruited via the Department of Psychology's participant pool at the University of Saskatchewan. Specifically, over a two month period, participants had the opportunity to sign up for the study after reviewing a brief abstract posted on the participant pool website. Included in the abstract was information explaining the

[1] It is important to note that these terms are not meant to denote clinical attributions, but rather are used in order to distinguish between levels of body image concerns within the present sample. As well, while a large portion of the analysis involves comparison of these two groups, correlation analyses were also utilized in order to ensure that the full range of body image concerns was addressed.

purpose of the study, what participating would entail, and the time and location of the study.

Administration of the questionnaire was completed in groups ranging in size from five to nine individuals, which allowed for sufficient spacing between participants in order to ensure their confidentiality. Included in the questionnaire booklet that was handed out to each participant was a consent form outlining the purpose of the study and their rights as participants (see Appendix B). All of the potential participants provided informed consent and completed the questionnaire, which included measures of each of the components of the Theory of Reasoned Action as well as items measuring behavioural intentions and demographics. Participants were asked not to put their names or student numbers anywhere on the questionnaires, thereby ensuring anonymity of responses.

Once participants completed the questionnaire, they handed it in, along with their consent form, to the researcher or research assistant, keeping the questionnaires and consent forms separate in order to ensure anonymity of responses. Following this, the participants received a debriefing form (see Appendix C), with a copy of the consent form on the reverse side. Once each data collection session was completed, the researcher or research assistant assigned participants a credit via the participant pool website.

4. RESULTS

4.1 Scale Properties and Intercorrelations among Theory of Reasoned Action Constructs and Body Image Scale[2]

Table 2 contains the means and standard deviations of the scales measuring components of the Theory of Reasoned Action and for the Body Image Scale. These results are presented for all of the participants as well as for the two body image groups – those with high body image concerns and those with low body image concerns. According to the theory of reasoned action, attitudes and subjective norms regarding the behaviour in question are believed to jointly determine behavioural intention. Therefore, preliminary correlational analyses were conducted to confirm the predicted relationships among the variables prior to fully testing the TRA model. As shown in Table 3, these expected correlational relationships were present.

While attitudes and the subjective norm regarding pregnancy were both positively correlated with intentions to become pregnant, the subjective norm of thinness was not. This disconfirms the possibility that both the norm pertaining to pregnancy and the norm pertaining to thinness must be included in order to adequately predict intentions to become pregnant. Thus, the subjective norm of thinness was not included in subsequent regression analyses.

As the expected correlation relationships were present among the components of the Theory of Reasoned Action, the next step was to determine how the construct of

[2] Exploratory analysis was carried out to determine if the pattern of results for the correlation analysis may differ when looking separately at the EDI subscales Drive for Thinness (indicative of anorexia), Bulimia, and Body Dissatisfaction that, when combined, form the Body Image Scale. Results of these analyses replicated what was found using the combined scale which measures more global concerns with body image. Therefore, only analyses on the combined body image scale are reported.

body image fits within the model. Body image was not correlated with intention to become pregnant (see Table 3), refuting the prediction that those with high body image concerns would have a lower intention of becoming pregnant. More specifically, it was found that participants rated as having low body image concerns and those rated as having high body image concerns both reported a high intention of becoming pregnant in the future, $t(155) = -.83$, $p = .41$ (see Table 2 for group means).

Although body image was not correlated with intentions to become pregnant, as had been expected, the prediction that participants with high body image concerns would report a higher subjective norm of thinness as compared to those with low body image concerns was supported. As shown in Table 3, a moderate inverse correlation was present. Thus, although participants overall were found to have a relatively low score on the subjective norm of thinness scale, participants with high body image concerns indicated a greater perceived pressure to conform to the thin ideal and a greater desire to comply to this pressure as compared to those with low body image concerns, $t(155) = 3.33$, $p = .001$ (see Table 2 for group means).

Furthermore, in conjunction with the predicted hypothesis, there was a significant positive correlation between reported body image and attitudes toward the outcomes of pregnancy (see Table 3). Specifically, participants with high body image concerns had significantly less positive attitudes regarding the outcomes of pregnancy as compared to those with low body image concerns, $t(153) = -.33$ $p = .001$ (see Table 2 for group means). Subsequent analyses were then conducted in order to more fully examine the role of body image in moderating attitudes towards the outcomes of pregnancy.

Table 2
Means and Standard Deviations of TRA Scales as a Function of Body Image

	All Participants (*N* = 242)	High Body Image Concerns (*N* = 81)	Low Body Image Concerns (*N* = 76)
Theory of Reasoned Action			
Attitudes	-.10 (4.81)	-1.56 (5.03)	.88 (3.99)
Subjective Norm Pregnancy	23.21 (9.21)	23.155 (9.26)	22.82 (9.19)
Subjective Norm Thinness	19.92 (7.18)	21.89 (6.95)	18.14 (7.16)
Intention to Become Pregnant	16.48 (3.35)	16.53 (2.88)	16.91 (2.80)
Body Image	30.04 (13.84)	15.98 (5.96)	46.25 (8.11)

Note. Standard deviations in parentheses. Attitude scores range from –21 to 21 with higher scores indicating more positive attitudes. Subjective norm pregnancy/thinness scores range from 1 to 49 with higher scores indicating higher subjective norms. Intention scores range from 3 to 19 with higher scores indicating greater intention to become pregnant. Body image scores range from 0 to 69 with lower scores indicating more body image concerns.

Table 3
Correlations Among the Variables

	A	SNP	SNT	I
Attitudes (A)				
Subjective Norm Pregnancy (SNP)	.22**			
Subjective Norm Thinness (SNT)	-.14*	.23**		
Intentions (I)	.33**	.41**	.002	
Body Image (BI)	.21**	.002	-.24**	.04

Note. *$p < .05$. **$p < .01$.

4.2 Factor Structure of the Attitude Measure

A principle components analysis (PCA) was performed on the 13 individual attitude items in order to investigate the underlying factor structure. This method was chosen rather than factor analysis as there was no theoretically derived underlying constructs that were expected to produce scores on the observed variables; rather, the analysis was strictly exploratory in nature (Tabachnick &Fidell, 2001). In order to facilitate interpretation, varimax rotation was employed.

Two distinguishable factors were extracted by PCA, as indicated by the number of eigenvalues larger than 1 and by inspection of the scree plot. Loadings of variables on factors, communalities, and percent of variance for each factor are shown in Table 4. Approximately 52% of the total variance is attributable to these two factors. An

examination of the loading patterns clearly indicates that the attitude measure is, in fact, a two-dimensional factor. Specifically, the first factor appears to be related to outcomes of pregnancy that are of a more positive nature and is therefore given the label of "perceived benefits". Factor two, on the other hand, appears to relate to more negative outcomes of pregnancy and is given the label of "perceived costs". However, one attitude item, "I would have a different lifestyle as a result of pregnancy" was found to be complex in that it had a loading greater than .40 on both factors; therefore, this item was removed from all further analysis. Coefficient alphas for the factors perceived costs and perceived benefits were .80 and .83, respectively.

The results of the principle components analysis and the internal reliability coefficients were more than adequate to support use of these distinct subscales in subsequent analyses. As shown in Table 5, both sub-scale measures were significantly correlated with each other and with intentions to become pregnant, while body image was only significantly correlated with the perceived costs of pregnancy. Specifically, participants with high body image concerns were found to perceive of significantly more costs as compared to those with low body image concerns, $t(154) = -4.43$, $p < .001$. Although participants with high body image concerns perceived of fewer benefits of pregnancy as compared to those with low body image concerns, this finding did not reach significance, $t(154) = -1.69$, $p = .09$ (see table 6 for group means and standard deviations).

Table 4
Principle Components Analysis of Attitude Items

Items	Factor Loadings		h^2
	Factor 1	Factor 2	
Receive attention	.73*	.18	.56
Feel fulfilled	.84*	.08	.71
Gain weight	.23	.68*	.52
Feel more feminine	.53*	.13	.30
Feel physically awkward	.15	.62*	.41
Permanent change in weight	-.06	.71*	.51
Different lifestyle	.58	.47	.55
Feel happy	.79*	.14	.65
No control over changes to body	.11	.69*	.49
Feel more tired	.08	.69*	.49
Feel more unattractive	.11	.75*	.58
Create a family	.73*	.14	.56
Feel approval from others	.66*	-.10	.44
Percent of variance	34.76	17.37	52.13

Note: *Indicates factor assignments

Table 5
Correlations Among the Variables

	C	B	SNP	I
Perceived Costs (C)				
Perceived Benefits (B)	.32**			
Subjective Norm Pregnancy (SNP)	.09	.27**		
Intentions (I)	.14*	.36**	.41**	
Body Image (BI)	.33**	.07	.002	.04

Note. *$p < .05$. **$p < .01$.

Table 6
Means and Standard Deviations of Attitude Subscales as a Function of Body Image

	All Participants ($N = 241$)	High Body Image Concerns ($N = 81$)	Low Body Image Concerns ($N = 76$)
Perceived Costs	-7.93(5.10)	-9.75(5.23)	-6.26(4.58)
Perceived Benefits	7.72(6.10)	6.61(6.35)	8.20(5.30)

Note. Standard deviations in parentheses. Scores range from –21 to 21 with higher scores indicating more perceived costs/benefits of pregnancy.

4.3 Testing the TRA Model

The positive correlations between the TRA constructs provided initial support for the Theory of Reasoned Action's effectiveness in explaining intentions to become pregnant. The next step in confirming the model's applicability was to perform a multiple regression analysis in which intentions served as the dependent criterion variable. As it was established that the attitude toward the outcomes of pregnancy scale consisted of two distinct factors encompassing perceived costs and benefits of pregnancy, these two subscales and the subjective norm of pregnancy served as the predictor variables.

A summary of this multiple regression analysis is presented in Table 7, including the unstandardized regression coefficients (*B*) and standardized regression coefficients (β). Specifically, *B* represents the change in the dependent variable associated with a one-unit change in a predictor variable, all other predictors being held constant while β is the average amount the dependent variable increases when the predictor increases one standard deviation and other predictors are held constant. Also included in Table 7 are the semipartial correlations (sr^2), which refer to the percent of variance in the dependent variable uniquely attributable to the given predictor variable when other predictors in the equation are controlled for. Associated with multiple regression, as well, is the multiple correlation (R^2), defined as the percent of the variance in the dependent variable explained by the predictors. The adjusted multiple correlation (*Adjusted* R^2) also refers to the percent of variance explained but subtracts out the contribution of chance variations. Lastly, the correlation between the dependent variable and the best linear combination of the predictors is included (*R*) (Tabachnick &Fidell, 2001).

In partial support of the Theory of Reasoned Action, the regression analysis established that the three predictor variables combined explained 23% (22% adjusted) of the variance, $F(3,236) = 23.66$, $p < .001$. Both the subjective norm of pregnancy (sr^2 = .12) and perceived benefits of pregnancy (sr^2 = .07) made significant unique contributions to the prediction of intentions to become pregnant. However, perceived costs of pregnancy evidenced no ability to predict intentions to become pregnant (see Table 7).

While perceived benefits of pregnancy and the subjective norm of pregnancy were predictive of intentions to become pregnant for all participants, results revealed that the components of the Theory of Reasoned Action are less predictive of intentions to become pregnant for participants with high body image concerns (17%, 14% adjusted) as compared to those with low body image concerns (27%, 24% adjusted) [$F(3,77) = 5.26$, $p < .01$; $F(3,70) = 8.73$, $p < .001$, respectively]. Specifically, for participants with low body image concerns, both the subjective norm of pregnancy (sr^2 = .13) and perceived benefits of pregnancy (sr^2 = .12) made greater unique contributions to the prediction of intentions to become pregnant as compared to participants with high body image concerns [subjective norm of pregnancy (sr^2 = .08); perceived benefits of pregnancy (sr^2 = .06)]. For both groups, however, perceived costs of pregnancy were not predictive of intentions to become pregnant (see Table 7).

Table 7
Summary of Multiple Regression Analysis for Variables Predicting Intentions to Become Pregnant

	B	β	sr^2	R^2	Adjusted R^2	R
All Participants (N = 240)						
Perceived Benefits	.14**	.26	.07			
Perceived Costs	.02	.03	.001			
Subjective norm pregnancy	.12**	.33	.12	.23**	.22	.48**
High Body Image Concerns (N = 81)						
Perceived Benefits	.12*	.25	.06			
Perceived Costs	.02	.03	.001			
Subjective norm pregnancy	.08*	.27	.08	.17*	.14	.41*
Low Body Image Concerns (N = 74)						
Perceived Benefits	.17*	.32	.12			
Perceived Costs	.02	.03	.001			
Subjective norm pregnancy	.11*	.34	.13	.27**	.24	.52**

Note. *$p < .01$. ** $p < .001$

4.4 Examination of Behaviours Engaged in if Pregnant

Specific analyses were also conducted to examine the hypotheses positing a negative relation between body image and willingness to engage in various weight control measures if pregnant. As shown in Table 8, these hypotheses were, for the most part, supported. Body image exhibited a moderate negative correlation with likelihood to control weight during pregnancy, to control weight gain through dieting, and exercising to control weight. It was similarly found that participants who perceived of greater costs of pregnancy also reported a greater likelihood of engaging in weight control behaviours during pregnancy (see Table 8).

Due to the finding that body image and perceived costs of pregnancy were significantly correlated, further analysis was carried out to control for the possibility that perceived costs were confounding the relationship between body image and weight control behaviours. Results supported the initial findings that body image is significantly correlated with weight control behaviours. Specifically, when controlling

for perceived costs of pregnancy, body image was negatively correlated with likelihood to control weight during pregnancy [$r(234) = -.23$, $p < .001$] and controlling weight through dieting [$r(234) = -.22$, $p = .001$], with exercising to control weight nearing significance [$r(234) = -.11$, $p = .07$]. This finding, as well as other findings pertaining to body image and the components of the TRA, is presented schematically in Figure 2 (see page 40).

Table 8

Correlations Among Variables Measuring Behaviours If Pregnant

	BI	C	W	S	D
Body image (BI)					
Perceived Costs (C)	.29**				
Control weight (W)	-.31**	-.33**			
Smoke to control weight (S)	-.06	-.07	-.02		
Diet to control weight (D)	-.31**	-.31**	.28**	.08	
Exercise to control weight (E)	-.19**	-.31**	.35**	.07	.16*

Note. *$p < .05$. **$p < .01$.

Contrary to predictions, body image and expected weight gain during pregnancy were not significantly correlated [$r(231) = -.01$, $p = .86$]. As well, participants with high body image concerns did not report an expected weight gain during pregnancy that deviated from the recommended weight gain of 25 to 30 pounds. Specifically, results revealed that participants with high body image concerns expected to gain, on average, 27.71 pounds ($SD = 10.68$). This amount did not differ significantly from the expected weight gain reported by participants with low body image concerns ($M = 27.89$ pounds, $SD = 11.78$), $t(152) = -.10$, $p = .92$.

The tentative hypothesis that participants with high body image concerns may carry their concerns with weight to their infant as evidenced by a desire to have an infant with a lower than average birth weight was also not supported. On average, participants with high body image concerns expected a newborn infant to weigh 7.38 pounds ($SD = 1.32$), in line with the average birth weight of 7.5 pounds. Furthermore, body image and

expected weight of a newborn infant were not significantly correlated [$r(232) = -.02$, $p = .78$]. Rather, it was found that the expected birth weight reported by participants with high body image concerns was very similar to that reported by participants with low body image concerns ($M = 7.36$ pounds, $SD = .89$), $t(151) = .104$, $p = .92$.

Lastly, the association between perfectionism (a constellation of traits often associated with body image issues) and body image and the subjective norm of pregnancy was examined in exploratory fashion. It was tentatively hypothesized that the perfectionism sub-scale of the EDI would be positively correlated with body image and negatively correlated with reported subjective norm regarding pregnancy. Although the perfectionism subscale was significantly correlated with body image [$r(237) = .19$, $p < .01$], indicating that participants with high body image concerns have higher levels of perfectionism, the subscale was not correlated with the subjective norm of pregnancy [$\mathrm{r}(237) = .06$, $p = .36$].

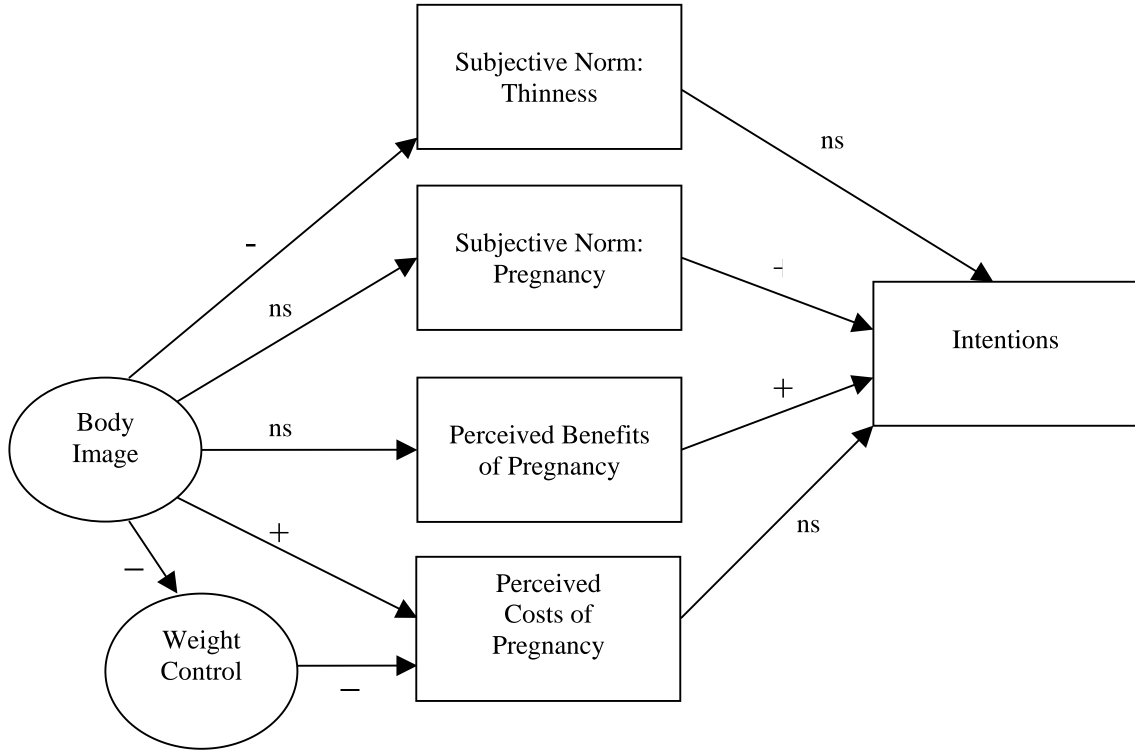

Figure 2. Schematic of Results
Note. ns = non-significant correlation. + = significant positive correlation.
- = significant negative relationship.

5. DISCUSSION

One of the main purposes of the present study was to apply the TRA to the intention to become pregnant among a sample of women with varying degrees of body image perceptions. While the majority of the components of the TRA were predictive of intentions to become pregnant, some unexpected results emerged. These findings, which demonstrate the complexity of the issues surrounding body image and pregnancy, will be highlighted. Findings will also be discussed in relation to their practical application and directions for future research.

In accordance with the TRA in which it is postulated that attitudes and subjective norms jointly determine behavioural intention, initial analysis revealed that attitudes toward the outcomes of pregnancy and the subjective norm of pregnancy were both positively correlated with intentions. Also included in the analysis was the subjective norm of thinness. Specifically, based on the belief that women face two opposing societal pressures - conforming to the thin ideal and becoming pregnant – it was speculated that both may impact upon one's decision to become pregnant.

Results revealed, however, that the subjective norm of thinness is not a precursor to intentions to become pregnant. This finding lends further support to the principle of compatibility which states that the attitude and subjective norm measures must directly target the behaviour in question, or in this case, the intention to perform the behaviour (Ajzen & Fishbein, 1977). As well, the stronger the compatibility between the two, the stronger the statistical relation will be (Ajzen & Fishbein, 1977). Thus, while the subjective norm of pregnancy and the intention to become pregnant had the same target elements (i.e., pregnancy), thereby resulting in a strong correlation between the two, the

subjective norm of thinness had very low compatibility with the intention to become pregnant.

Despite the fact that the subjective norm of thinness does not appear to have an impact on intentions to become pregnant, results supported the prediction that participants with high body image concerns would indicate a greater perceived pressure to conform to the thin ideal and greater desire to comply to this pressure. Further examination of how the construct of body image relates to the TRA variables also revealed that body image was significantly correlated to attitudes toward the outcomes of pregnancy, thereby supporting the prediction that women with high body image concerns would report less positive attitudes toward the outcomes of pregnancy.

While it was predicted by the TRA that less positive attitudes towards becoming pregnant would have a negative impact on intentions to become pregnant, as evidenced by participants with high body image concerns reporting lower intentions, this was not found to be the case. Rather, results revealed that all participants reported a very high intention of becoming pregnant in the future. According to the TRA, factors that influence attitudes should also influence the intentions (Fishbein & Ajzen, 1975). However, in this study, body image was significantly related to attitudes towards the outcomes of pregnancy and yet evidenced no relation to intentions to become pregnant. This apparent contradiction of the TRA warranted further investigation of the relationship between body image and attitudes towards the outcomes of pregnancy.

The first step in further exploring the relationship between body image and the attitudes towards the outcomes of pregnancy was to carry out a principle components analysis in order to determine if there was an underlying factor structure for the attitude measure. Results revealed that this measure consisted of two unique factors – those

related to what could be viewed as negative outcomes of pregnancy and those outcomes of pregnancy that were of a more positive nature. Therefore, based on results of the principle components analysis, subscales were created pertaining to the perceived costs of pregnancy versus the perceived benefits of pregnancy. Further correlation analyses, which included these two subscales, yielded unexpected yet interesting findings. Specifically, while the expected relationships among the TRA constructs were still present, results revealed that body image was not significantly correlated to all of the attitude items, as was previously thought. Rather, body image was only significantly correlated with perceived costs of pregnancy, indicating that participants with high body image concerns are more likely to perceive of there being greater costs of pregnancy in comparison to those with low body image concerns.

While this correlation analysis was only the first step in testing the TRA model, these findings provided an initial glimpse of the complexity of the relationship between body image and pregnancy. The next step in testing the TRA model consisted of carrying out a multiple regression analysis. Results of this analysis provided partial support for the TRA in that, for all participants, subjective norms and perceived benefits of pregnancy were predictive of intentions to become pregnant. Perceived costs of pregnancy, however, evidenced no ability to predict intentions.

A further goal of testing the TRA model was to determine if there were differences between the two body image groups in terms of what factors were predictive of intentions and if the predictive ability of the model differed at all. While both the subjective norm of pregnancy and perceived benefits of pregnancy were predictive of intentions for participants with high body image concerns as well as for those with low body image concerns, differences between the two groups did emerge. Specifically,

results revealed that overall, the components of the TRA were less predictive of intentions to become pregnant for participants with high body image concerns. For participants with high body image concerns, it was also found that the individual components of the TRA made less unique contributions to the prediction of intentions to become pregnant as compared to those with low body image concerns. This finding suggests that body image moderates the predictive ability of the TRA in predicting intentions to become pregnant.

Although one of the main goals of this study was to examine the TRA's ability to predict intentions to become pregnant among women with high body image concerns, a secondary purpose was to assess how these women may behave *if* pregnant. This analysis revealed that participants with high body image concerns reported a greater likelihood of controlling weight gain during pregnancy. Furthermore, it was indicated that weight control during pregnancy would be achieved through diet and exercise.

In spite of the finding that smoking to control weight gain during pregnancy was not correlated with body image and that overall, participants did not endorse it as a method of weight control during pregnancy, it is possible that participants were responding in a socially desirable manner. That is, participants may have been hesitant to indicate that they would use smoking as a weight control method during pregnancy as it is widely known that smoking is harmful to oneself and to the fetus. It is also widely known that women who smoke prior to pregnancy are advised to cease smoking once they become pregnant.

Despite this widespread knowledge, previous research contradicts what was found in the present study. Specifically, it has been found that the use of smoking by young women as a method of weight control is increasing and that the greater the

concern a woman has with her weight, the greater is her use of cigarettes (Abraham & Llewellyn-Jones, 2001; Crisp et al., 1998). Furthermore, while many women follow the recommendation to quit smoking during pregnancy, recent findings by Statistics Canada estimate that 23% continue to smoke throughout their pregnancy (Gillmore, 2001). As well, women with high body image concerns have been found to be more likely to adopt smoking as a weight control strategy during pregnancy (Pomerleau, Brouwer, & Jones, 2000). Thus, the possibility remains that women with high body image concerns may be more inclined to use smoking as a method of weight control during pregnancy but are hesitant to indicate this due to smoking becoming increasing socially unacceptable, especially while pregnant.

Overall, results supported the hypotheses related to weight control behaviours during pregnancy. However, two other predictions related to weight, that of weight gain during pregnancy and weight of a newborn infant, were not supported. Rather it was found that, regardless of body image concerns, participants expected to gain weight that fell within the recommended weight gain of 25 to 30 pounds. As well, participants reported that they expected a newborn to weigh 7.38 pounds, which is in line with the average birth weight of an infant.

It is important to point out that the questions for these two items were worded, "How much weight would you *expect* to gain if pregnant" and "How much would you *expect* a newborn infant to weigh" (italics added). Based on this wording, it is possible that participants were trying to provide answers that were *correct* and responses were not indicative of what they would hope their weight gain and weight of an infant would be. Results may have been more telling if the questions had been worded as, "How

much weight would you *want* to gain during pregnancy" and "How much would you *want* a newborn infant to weigh".

A tentative hypothesis regarding perfectionism and the subjective norm of pregnancy was also not supported. Specifically, it was explored if perhaps one of the reasons for participants with high body image concerns to indicate a moderate score on the subjective norm of pregnancy scale would be related to their desire to "have it all" and to be the so-called perfect woman by not only conforming to the thin ideal but by also conforming to the norm of parenthood. In line with the findings of past research, body image was significantly correlated with perfectionism (Meyer & Waller, 2000). Perfectionism, however, was not correlated with the subjective norm of pregnancy.

Overall, results of the present study provided support for many of the hypotheses but also yielded unexpected findings that were contrary to what had been predicted. These unexpected findings, relating both to the theory as well as to the issue of body image and pregnancy, warrant further review. Prior to examining more closely the findings pertaining to body image, the results concerning the Theory of Reasoned Action will be discussed.

5.1 Theoretical Implications

Results of the present study offered partial support for applying the TRA to the prediction of intentions to become pregnant. Specifically, it was found that overall, 23% of the variance in intentions to become pregnant was accounted for by the components of the TRA, increasing to 27% when including only those with low body image concerns. However, it may be debatable if this is a suitable amount of variance to be accounted for when compared to the amount of variance accounted for by previous research that has tested the TRA model. For example, Ajzen and Fishbein (1973)

reviewed 10 studies and reported that, on average, attitudes and subjective norms accounted for 58% of the variance in the prediction of intentions. In a more recent meta-analysis of 87 studies utilizing the TRA, it was found that the average amount of variance accounted for by attitudes and subjective norms was 44% (Sheppard, Hartwick & Warshaw, 1988). Lastly, a meta-analysis was conducted for studies that examined the TRA's ability to predict condom use. Based on the results of 96 studies, it was found that attitudes and subjective norms accounted for 49% of the variance in intention to use condoms (Albarracin, Johnson, Fishbein, Muellerleile, 2001).

Although the amount of variance accounted for in the present study is lower than what has been previously found, this is more than likely due to the large temporal span between intentions and actual behaviour. That is, according to Fishbein and Ajzen (1977), a behavioural intention will predict the performance of any voluntary act, *unless* intent changes prior to performance or unless the intention measure does not correspond to the behavioural criterion in terms of action, target, context, specificity and/or *time frame*. Therefore, they suggest that administering the measures of attitudes, subjective norms, and intentions as close as possible to the performance time can minimize the latter constraint. Although Ajzen and Fishbein do not pinpoint a particular time span between measuring intentions and actual behaviour, previous research utilizing the TRA in which intentions were significantly correlated with behaviour had a temporal span of 2 months (marijuana use; Morrison et al., 2002), six months (AIDS-preventive behaviour; Fisher & Fisher, 1995), and one year (hunting behaviour; Hurbes, Ajzen & Daigle, 2001).

However, in the case of predicting intentions to become pregnant, it must be recognized that the questionnaire was administered to young women from a introductory

psychology class who, for the most part, are a long way from following through with their intentions to become pregnant. Specifically, recent research has revealed a growing tendency for women to delay first time childbirth, with the national average age at which a woman has her first child now being 27 years (Lochhead, 2000). This is almost ten years older than the average age of the sample in the present study. In light of the fact that the temporal span between intentions and actual behaviour is so large, accounting for 23% of the variance in intentions to become pregnant is more than an acceptable amount.

A major theoretical finding that also warrants closer examination is in relation to the fact that only subjective norm and the perceived benefits of pregnancy were predictive of intentions while the perceived costs of pregnancy evidenced no predictive ability. It would therefore appear that forming the intention to become pregnant is not based upon evaluations of all salient outcomes but rather is just based on those related to evaluations of the perceived benefits of pregnancy, such as feeling fulfilled, feeling happy, and feeling approval from others. Even though perceived costs of pregnancy are reported, especially for those with high body image concerns, these costs are essentially ignored when it comes to intending to become pregnant. While the fact that not all of the salient outcomes are influential is contrary to what is proposed by the TRA (Fishbein & Ajzen, 1975), this finding is in line with research pertaining to parenting in which the motivations to become a parent have been examined.

One of the leading theoretical perspectives regarding motivations to parent takes the approach wherein the decision to become a parent is believed to derive from the evaluation of the perceived rewards versus the perceived costs of parenthood. That is, based on this perspective, it is hypothesized that if individuals contemplating parenthood

perceive that the net value of children is positive, meaning that the rewards outweigh the costs, they will be motivated to have children. If, on the other hand, the net value is negative, individuals will be more likely to decide to forego parenthood (Hoffman & Hoffman, 1973, as cited in Lawson, 2004). Although both the costs and benefits of parenthood are believed to be taken into consideration when deciding whether or not to become a parent, recent advancements of this perspective suggest otherwise (Lawson, 2004).

In order to more fully understand the motivations to become a parent, Lawson (2004) developed the Perceptions of Parenting Inventory (POPI) which is a multidimensional scale containing six subscales that measure distinct dimensions of the perceptions of parenting. Among a sample of 282 introductory psychology students, results revealed that the subscales of Instrumental Costs and Commitment, both of which measure negative aspects of parenting, were not significantly related to items measuring importance of parenting or to stated intentions to be a parent. In order to further validate the POPI, this scale was also administered to 225 university employees. Results revealed that childless participants who intend to have children reported greater instrumental costs of parenting as compared to those with children. However, as was found with the university student sample, costs of parenting did not influence decisions to parent. Thus, similar to the results of the present study, the costs associated with parenting did not appear to play a role in predicting motivations to parent.

These findings would suggest that pregnancy, and more generally parenting, may be an instance in which not all of the salient outcomes are taken into account. That is, individuals are aware of the fact that with the decision to become pregnant and to parent, negative aspects will be encountered; however, the negative side of things seems to have

no bearing on intentions to become pregnant, as was the case with the present study, and to the intention to parent, as was found by Lawson (2004). Previous research testing the TRA model's ability to predict substance use among adolescents offers further support for the possibility that not all salient outcomes are taken into account when predicting intentions.

For example, Morrison et al. (2002) examined the intentions to use marijuana among 230 pregnant adolescents and found that attitudes toward using marijuana consisted of positive as well as negative outcome beliefs. Furthermore, analysis revealed that attitudes about using marijuana were formed largely on the basis of the expected positive outcomes of use (Morrison et al., 2002). Thus, as with motivations to parent and predicting intentions to become pregnant, the potential negative aspects of substance use did not play a role in predicting intentions.

These results highlight the possibility that, in many instances, the outcomes of performing a particular behaviour are not all favourable in nature and yet, individuals continue to engage in the behaviour in question. Thus, it would appear necessary to consider two things when applying the framework of the TRA. First, it must be considered that the attitude measure is not necessarily a unidimensional construct. And second, if an attitude measure is multidimensional, it must be explored if all dimensions are influential in predicting intentions. What now must be considered for the present study are the potential implications of not taking the costs into account when determining intentions to become pregnant.

5.2 Implications of Results Pertaining to Body Image

For the average woman, it may not be problematic that the costs of pregnancy do not play a role in determining intentions to become pregnant. That is, although past

research has illustrated that the changes to one's body experienced during pregnancy lead to decreased body image satisfaction (Fairburn & Welch, 1990; Fox & Yamaguchi, 1997; Stenberg & Blinn, 1993), for the most part, these "costs" are accepted as a natural part of pregnancy and the pressure to conform to the thin ideal are set aside. However, for women with high body image concerns, a somewhat different picture emerges, as suggested by results of the present study.

Despite the fact that those with high body image concerns perceive of greater costs of pregnancy, they are similar to women with low body image concerns in that the perceived costs continue to hold no influence in determining intentions to become pregnant. An important difference however, is that women with high body image concerns do not appear to fully accept the costs of pregnancy as being a natural part of pregnancy, as suggested by the finding that they report a greater likelihood of controlling weight gain during pregnancy. It is therefore possible that the perceived costs of pregnancy do not factor into intentions, not because they are accepted as being a natural part of pregnancy, but because steps will be taken to control the perceived costs of, for example, gaining weight, feeling less attractive, and feeling that changes to one's body during pregnancy are out of their control. It must be recognized therefore, that the possibility exists that the desire to conform to the thin ideal is not halted during pregnancy among women with high body image concerns, but rather is intensified despite the fact that the thin ideal has become even more unattainable.

In summary, the finding that women with high body image concerns do intend to become pregnant is not, in and of itself, problematic. However, when these findings are looked at in relation to the fact that these women perceive of there being greater costs of pregnancy (largely related to the physical changes experienced during pregnancy), have

a higher subjective norm of thinness, and indicate a greater likelihood of controlling weight during pregnancy, there is cause for concern. Furthermore, these findings suggest that women with high body image concerns are more likely to engage in unhealthy behaviours during pregnancy (e.g., excessive exercise and/or dieting), potentially leading to negative pregnancy outcomes.

5.3 Practical Application of the Findings

Until quite recently, the issue of pregnancy among women with eating disorders and the influence that pregnancy can have on women's body image, has not been adequately addressed. The small body of research that does exist, however, along with the results of the present study, suggests that ways in which to assist pregnant women and those contemplating pregnancy must be developed. Specifically, as it was found that those with high body image concerns intend to become pregnant despite perceiving of greater costs of pregnancy, health care providers must readily address the issue of changes to a woman's body that will be experienced during and after pregnancy.

That is, it can not be assumed that all women will view the physical changes they are experiencing during pregnancy as being normal and desirable. Rather, results of the present study suggest that negative attitudes towards physical changes may be evidenced among women with high body image concerns by their engaging in weight control behaviours. Thus, health care providers must be sensitive to the possibility that their patients may struggle with and dislike the bodily changes they are experiencing as a result of pregnancy. At the same time, they must clearly outline the importance of adequate weight gain during pregnancy and what the possible negative consequences are to both mother and the infant if weight control behaviours are engaged in during pregnancy.

However, prior to developing medical protocols for the care of pregnant women who have high body image concerns and/or eating disorders, steps must be first taken to increase awareness among the health care community regarding the issue of pregnancy and body image/eating disorders. This suggestion is reinforced by the finding that obstetricians are neither aware of the problem nor are they asking their patients about histories of eating disordered behaviours (Abraham, 2001). As well, in light of previous research that has demonstrated that women with eating disorders are more likely to suffer from postpartum depression (Franko et al., 2001), it is especially important that health care providers become more aware of the issue so that they can monitor more closely the psychological, as well as physical health, of their patients.

In order to further ensure the health of women during pregnancy, protocols must also be established for those who work with women who have a history of suffering from an eating disorder. That is, anyone who is involved in the treatment of women with eating disorders must be aware that pregnancy may be an especially difficult time for these women. Specifically, the perceived costs associated with the outcomes of pregnancy may seem so high for women with body image concerns and/or eating disorders that numerous unhealthy behaviours are engaged in in an attempt to control the perceived costs of pregnancy.

As it is possible that pregnancy may bring about new challenges in trying to desist from unhealthy weight control behaviours, a support system must be established in order to address how these women may feel about pregnancy, ways in which to manage these feelings, and who to turn to for guidance when the desire to control the physical outcomes of pregnancy arises. It is further recommended that a team approach be taken when establishing a support system for pregnant women with high body image

concerns. By having various health care providers, such as physicians, community health nurses, and mental health professionals, working closely together, signs of negative attitudes towards the pregnancy and desire to engage in weight control behaviours can be fully addressed from both a medical and psychological standpoint, thereby increasing the likelihood of a healthy pregnancy outcome.

5.4 Limitations

Results of the present study have demonstrated partial support for the applicability of the TRA in predicting intentions to become pregnant. The knowledge base pertaining to the issue of pregnancy among women with high body image concerns has also been expanded upon. However, limitations of the present study have been recognized that suggest caution in generalizing the findings and point to directions for future research.

5.4.1 Sample homogeneity. Eighty-six percent of the participants were Caucasian, with an average age of 19.23 years. On the one hand, this sample is quite representative of the general population in relation to body image issues. That is, it has been found that eating disorders are most prevalent among adolescent girls and young adult women, with Caucasian females having higher rates of eating disorders as compared to other minority groups (Altabe, 1998; Fairburn & Harrison, 2003). However, future research is required to determine if the relationship between body image and the constructs of the TRA as well as the predictive ability of the TRA in explaining intentions to become pregnant would be similar across different age groups and ethnicities. Furthermore, it would be beneficial to test the TRA among a sample of women in which sexual orientation was identified in order to determine if this variable would impact upon attitudes, subjective norms, and subsequent intentions to become

pregnant. It is possible that lesbian women might adhere to different belief systems regarding pregnancy and parenting or that they might be subject to unique societal pressures or subjective norms in relation to pregnancy.

5.4.2 Temporal span between intentions and behaviour. As has been discussed, the timeframe between behavioural intentions and actual behaviour can diminish the predictive ability of the TRA. It is therefore possible that the average age of the participants accounted for the relatively small amount of variance accounted for in predicting intentions to become pregnant. Therefore, future research is required with a sample that is nearer to the average age of first time child bearing in order to more accurately understand the predictive ability of the TRA. This average age of first time child bearing, however, must be determined based on the population being studied.

5.4.3 Eating disorder symptomatology. While the Eating Disorder Inventory is indicative of symptoms of eating disorders, including anorexia and bulimia, participants in the current study were not clinically diagnosed as suffering from an eating disorder. Therefore, future research is required that includes a sample of women who have been clinically diagnosed with an eating disorder in order to examine the predictive ability of the TRA in explaining intentions to become pregnant and to also examine the relationship among eating disorders and the TRA constructs.

5.5 Directions for Future Research

5.5.1 Attitudes and intentions to become pregnant among a clinical sample. Results of this study revealed that participants with high body image concerns intended to become pregnant despite perceiving of greater costs of pregnancy and also planned to control weight gain during pregnancy, perhaps as a way of coping with these costs. Based on these findings with a nonclinical sample, the attitudes and intentions to

become pregnant must be examined among a sample of women clinically diagnosed with an eating disorder.

While replicating the current study with a clinical sample would further an understanding of the issue of eating disorders and pregnancy, it is suggested that a more in depth qualitative analysis would also be beneficial. Ideally, this study would be of a longitudinal nature, following a sample of women prior to, during, and after pregnancy in order to learn what impact the pregnancy had on their eating disorder and their methods of coping throughout and after the pregnancy. By carrying out a study of this nature, the thoughts, feelings and fears of these women will be better heard and understood and, in turn, health care professionals will be able to more adequately address the issue of pregnancy among women with eating disorders.

5.5.2 Prenatal attachment and attitudes toward pregnancy. Based on the finding that participants with high body image concerns have more negative attitudes toward the outcomes of pregnancy and, more specifically, perceive of there being greater costs of pregnancy, future research is required that examines how this may impact upon the experience of pregnancy. That is, it must be asked if these negative attitudes and perceived costs of pregnancy impact upon developing a strong prenatal attachment, which is defined as a growing affection for and relationship with the unborn child during pregnancy (Siddiqui & Hagglof, 2000).

Past research has demonstrated that prenatal attachment is positively correlated to pregnancy-related behaviours such as getting adequate sleep, not using illegal drugs or alcohol, receiving prenatal care, and eating healthy foods (Lindgren, 2001). It has also been found that prenatal attachment is associated with postnatal attachment behaviours such as greater proximal stimulation (e.g., touching, kissing) and distal

stimulation (e.g., vocalization, smiling) (Siddiqui & Hagglof, 2000). Based on these findings, it is imperative that the relationship between body image/eating disorders, attitudes toward pregnancy, and subsequent levels of prenatal attachment is better understood.

6. CONCLUSION

Results of the present study demonstrated partial support for the predictive ability of the TRA in explaining intentions to become pregnant in that both the perceived benefits of pregnancy and the subjective norm of pregnancy were predictive of intentions. However, perceived costs of pregnancy evidenced no ability to predict intentions. This highlights the possibility that the attitude measure may be multidimensional and that, in some cases, not all of the salient outcomes will be predictive of intentions. Also highlighted was the finding that although a large temporal span existed between intentions and actual behaviour, the TRA model was still predictive of intentions to become pregnant in the future.

Along with the important theoretical findings, results also emerged that help to expand upon the knowledge base in relation to pregnancy and body image. Specifically, it was revealed that body image was not related to intentions, as all participants indicated a high intention to become pregnant. Participants with high body image concerns, however, had a higher subjective norm for thinness, perceived of greater costs associated with pregnancy, and indicated a greater desire to control weight during pregnancy. These findings suggest that the pressure to conform to the thin ideal is not alleviated during pregnancy; rather, the potential exists that women with high body image concerns will engage in unhealthy behaviours in their continued pursuit for the thin ideal and as a way of controlling the costs of pregnancy.

Until the time arrives when images of women of all shapes and sizes are accepted as being ideal, women will continue to feel dissatisfied with their bodies, a feeling found to be exacerbated by pregnancy. Therefore, continued research in the area

of body image and pregnancy is essential in order to more fully understand what women with body image concerns view to be costs of pregnancy and how these costs impact upon their pre- and post-natal experience. Furthermore, the health care community and those working closely with women suffering from eating disorders must be made more aware of the issue and to assist in the development of protocols that will help ensure the psychological and physical health of women with body image concerns/eating disorders during and after pregnancy.

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Appendix A

Pregnancy Questionnaire

When a woman becomes pregnant, there are many possible outcomes that she may experience. Following is a set of questions that are divided into 2 parts. The first part of each statement lists some of the possible outcomes of being pregnant. You are asked to rate on a scale of 1 to 7 how much you believe that you would personally experience each possible outcome if one day you become pregnant. You are then asked to rate how you would evaluate each of the possible outcomes. Please circle your response on the scale provided.

1. I would receive attention from others as a result of pregnancy.

1	2	3	4	5	6	7
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Neither Likely nor Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

Receiving attention from others as a result of pregnancy would be …

1	2	3	4	5	6	7
Extremely Undesirable	Moderately Undesirable	Slightly Undesirable	Neither Desirable nor Undesirable	Slightly Desirable	Moderately Desirable	Extremely Desirable

2. I would feel fulfilled as a result of pregnancy.

1	2	3	4	5	6	7
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Neither Likely nor Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

Feeling fulfilled as a result of pregnancy would be . . .

1	2	3	4	5	6	7
Extremely Undesirable	Moderately Undesirable	Slightly Undesirable	Neither Desirable nor Undesirable	Slightly Desirable	Moderately Desirable	Extremely Desirable

3. I would gain weight as a result of pregnancy.

1	2	3	4	5	6	7
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Neither Likely nor Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

Gaining weight as a result of pregnancy would be . . .

1	2	3	4	5	6	7
Extremely Undesirable	Moderately Undesirable	Slightly Undesirable	Neither Desirable nor Undesirable	Slightly Desirable	Moderately Desirable	Extremely Desirable

4. I would feel more feminine as a result of pregnancy.

1	2	3	4	5	6	7
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Neither Likely nor Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

Feeling more feminine as a result of pregnancy would be . . .

1	2	3	4	5	6	7
Extremely Undesirable	Moderately Undesirable	Slightly Undesirable	Neither Desirable nor Undesirable	Slightly Desirable	Moderately Desirable	Extremely Desirable

5. I would feel physically awkward as result of pregnancy.

1	2	3	4	5	6	7
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Neither Likely nor Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

Feeling physically awkward as a result of pregnancy would be . . .

1	2	3	4	5	6	7
Extremely Undesirable	Moderately Undesirable	Slightly Undesirable	Neither Desirable nor Undesirable	Slightly Desirable	Moderately Desirable	Extremely Desirable

6. I would have a permanent change in weight as a result of pregnancy.

1	2	3	4	5	6	7
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Neither Likely nor Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

Having a permanent change in weight as a result of pregnancy would be . . .

1	2	3	4	5	6	7
Extremely Undesirable	Moderately Undesirable	Slightly Undesirable	Neither Desirable nor Undesirable	Slightly Desirable	Moderately Desirable	Extremely Desirable

7. I would have a different lifestyle as a result of pregnancy.

1	2	3	4	5	6	7
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Neither Likely nor Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

Having a different lifestyle as a result of pregnancy would be . . .

1	2	3	4	5	6	7
Extremely Undesirable	Moderately Undesirable	Slightly Undesirable	Neither Desirable nor Undesirable	Slightly Desirable	Moderately Desirable	Extremely Desirable

8. I would feel happy as a result of pregnancy.

1	2	3	4	5	6	7
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Neither Likely nor Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

Feeling happy as a result of pregnancy would be . . .

1	2	3	4	5	6	7
Extremely Undesirable	Moderately Undesirable	Slightly Undesirable	Neither Desirable nor Undesirable	Slightly Desirable	Moderately Desirable	Extremely Desirable

9. Changes to my body during pregnancy would be out of my control.

1	2	3	4	5	6	7
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Neither Likely nor Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

Having no control over changes to my body during pregnancy would be . . .

1	2	3	4	5	6	7
Extremely Undesirable	Moderately Undesirable	Slightly Undesirable	Neither Desirable nor Undesirable	Slightly Desirable	Moderately Desirable	Extremely Desirable

10. I would be more tired as a result of pregnancy.

1	2	3	4	5	6	7
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Neither Likely nor Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

Feeling more tired as a result of pregnancy would be . . .

1	2	3	4	5	6	7
Extremely Undesirable	Moderately Undesirable	Slightly Undesirable	Neither Desirable nor Undesirable	Slightly Desirable	Moderately Desirable	Extremely Desirable

11. I would feel more unattractive as a result of pregnancy.

1	2	3	4	5	6	7
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Neither Likely nor Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

Feeling more unattractive as a result of pregnancy would be . . .

1	2	3	4	5	6	7
Extremely Undesirable	Moderately Undesirable	Slightly Undesirable	Neither Desirable nor Undesirable	Slightly Desirable	Moderately Desirable	Extremely Desirable

12. I would create a family as a result of pregnancy.

1	2	3	4	5	6	7
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Neither Likely nor Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

Creating a family as a result of pregnancy would be . . .

1	2	3	4	5	6	7
Extremely Undesirable	Moderately Undesirable	Slightly Undesirable	Neither Desirable nor Undesirable	Slightly Desirable	Moderately Desirable	Extremely Desirable

13. I would feel approval from others as a result of pregnancy.

1	2	3	4	5	6	7
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Neither Likely nor Unlikely	Slightly Likely	Moderately Likely	Extremely Likely

Feeling approval from others as a result of pregnancy would be . . .

1	2	3	4	5	6	7
Extremely Undesirable	Moderately Undesirable	Slightly Undesirable	Neither Desirable nor Undesirable	Slightly Desirable	Moderately Desirable	Extremely Desirable

The following statements pertain to how you think other people would feel about you having biological children. For part 1 of the statement, please indicate how much you feel that they think you should or should not become pregnant. The second part of the statement asks you to indicate how important each person's opinions are to you. For some of the items, you may not know for sure what other people's opinions are but please indicate what you believe they would be. Please circle your responses on the scale provided.

1. My spouse (boyfriend/girlfriend) thinks I should someday become pregnant.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

I am motivated to act in line with my spouse's opinion about becoming pregnant.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

2. My mother thinks I should someday become pregnant.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

I am motivated to act in line with my mother's opinion about becoming pregnant.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

3. My father thinks I should someday become pregnant.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

I am motivated to act in line with my father's opinion about becoming pregnant.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

4. My relatives think I should someday become pregnant.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

I am motivated to act in line with my relatives' opinion about becoming pregnant.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

5. My friends think I should someday become pregnant.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

I am motivated to act in line with my friends' opinion about becoming pregnant.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

6. My religious community thinks I should someday become pregnant.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

I am motivated to act in line with my religious community's opinion about becoming pregnant.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

7. My cultural group/community thinks I should someday become pregnant.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

I am motivated to act in line with my cultural group's/community's opinion about becoming pregnant.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

8. My doctor thinks I should someday become pregnant.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

I am motivated to act in line with my doctor's opinion about becoming pregnant.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

9. My classmates think I should someday become pregnant.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

I am motivated to act in line with my classmates' opinion about becoming pregnant.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

10. The mass media thinks I should someday become pregnant.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

I am motivated to act in line with mass media's opinion about becoming pregnant.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

The following statements pertain to how you think other people feel about your weight. For part 1 of the statement, please indicate how much you feel that they think you should or should not be thin. The second part of the statement asks you to indicate how important each person's opinions are to you. For some of the items, you may not know for sure what other people's opinions are but please indicate what you believe they would be. Please circle your responses on the scale provided.

1. My spouse (boyfriend/girlfriend) thinks I should be thin.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

I am motivated to act in line with my spouse's opinion about being thin.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

2. My mother thinks I should be thin.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

I am motivated to act in line with my mother's opinion about being thin.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

3. My father thinks I should be thin.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

I am motivated to act in line with my father's opinion about being thin.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

4. My relatives think I should be thin.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

I am motivated to act in line with my relatives' opinion about being thin.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

5. My friends think I should be thin.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

I am motivated to act in line with my friends' opinion about being thin.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

6. My religious community thinks I should be thin.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

I am motivated to act in line with my religious community's opinion about being thin.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

7. My cultural group/community thinks I should be thin.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

I am motivated to act in line with my cultural group's/community's opinion about being thin.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

8. My doctor thinks I should be thin.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

I am motivated to act in line with my doctor's opinion about being thin.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

9. My classmates think I should be thin.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

I am motivated to act in line with my classmates' opinion about being thin.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

10. The mass media thinks I should be thin.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

I am motivated to act in line with mass media's opinion about being thin.

1	2	3	4	5	6	7	8
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree	Not Applicable

The following set of items ask you about your expectations or intentions of pregnancy. Please provide your response on the scale or space provided.

1. **I intend to one day become pregnant.**

1	2	3	4	5	6	7
Strongly Disagree	Mostly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Mostly Agree	Strongly Agree

2. **How likely is it that you will one day become pregnant?**

1	2	3	4	5	6	7
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Neither Unlikely nor Likely	Slightly Likely	Moderately Likely	Extremely Likely

3. **How important is it to you to become pregnant during your life?**

1	2	3	4	5
Not At All Important		Neither Important nor Unimportant		Extremely Important

4. **How much weight would you expect to gain if pregnant?** (list in *<u>either</u>* pounds or kg)

_____ pounds / _____ kilograms

5. **How much would you expect a newborn infant to weigh?** (list in *<u>either</u>* pounds or kg)

_____ pounds _____ ounces / _____ kilograms _____ grams

For the following set of questions, you are asked to rate on a scale of 1 to 7 how likely you are to engage in each of the behaviours* IF *pregnant. Please circle your response on the scale provided.

1. **Would it be important to you to control your weight during pregnancy to ensure that you do not gain too much weight?**

1	2	3	4	5	6	7
Extremely Important	Moderately Important	Slightly Important	Neither important nor Unimportant	Slightly Unimportant	Moderately Unimportant	Extremely Unimportant

2. **How likely is it that you would smoke during pregnancy as a *method of weight control*?**

1	2	3	4	5	6	7
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Neither Unlikely nor Likely	Slightly Likely	Moderately Likely	Extremely Likely

3. **How likely is it that you would diet during pregnancy as a *method of weight control*?**

1	2	3	4	5	6	7
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Neither Unlikely nor Likely	Slightly Likely	Moderately Likely	Extremely Likely

4. **How likely is it that you would exercise during pregnancy as a *method of weight control*?**

1	2	3	4	5	6	7
Extremely Unlikely	Moderately Unlikely	Slightly Unlikely	Neither Unlikely nor Likely	Slightly Likely	Moderately Likely	Extremely Likely

The following items ask about your attitudes, feelings, and behaviours. Some of the items relate to food or eating. Other items relate to your feelings about yourself. For each item, decide if the item is true about you NEVER (1), RARELY (2), SOMETIMES (3), OFTEN (4), USUALLY (5), OR ALWAYS (6). Please respond to all of the items by circling your responses on the scale provided.

	Never	Rarely	Sometimes	Often	Usually	Always
1. I eat sweets and carbohydrates without feeling nervous.	1	2	3	4	5	6
2. I think that my stomach is too big.	1	2	3	4	5	6
3. I wish that I could return to the security of childhood.	1	2	3	4	5	6
4. I eat when I am upset.	1	2	3	4	5	6
5. I stuff myself with food.	1	2	3	4	5	6
6. I wish that I could be younger.	1	2	3	4	5	6
7. I think about dieting.	1	2	3	4	5	6
8. I get frightened when my feelings are too strong.	1	2	3	4	5	6
9. I think that my thighs are too large.	1	2	3	4	5	6
10. I feel ineffective as a person.	1	2	3	4	5	6
11. I feel extremely guilty after overeating.	1	2	3	4	5	6

	Never	Rarely	Sometimes	Often	Usually	Always
12. I think that my stomach is just the right size.	1	2	3	4	5	6
13. Only outstanding performance is good enough in my family.	1	2	3	4	5	6
14. The happiest time in life is when you are a child.	1	2	3	4	5	6
15. I am open about my feelings.	1	2	3	4	5	6
16. I am terrified of gaining weight.	1	2	3	4	5	6
17. I trust others.	1	2	3	4	5	6
18. I feel alone in the world.	1	2	3	4	5	6
19. I feel satisfied with the shape of my body.	1	2	3	4	5	6
20. I feel generally in control of things in my life.	1	2	3	4	5	6
21. I get confused about what emotion I am feeling.	1	2	3	4	5	6
22. I would rather be an adult than a child.	1	2	3	4	5	6
23. I can communicate with others easily.	1	2	3	4	5	6
24. I wish I were someone else.	1	2	3	4	5	6
25. I exaggerate or magnify the importance of weight.	1	2	3	4	5	6

	Never	Rarely	Sometimes	Often	Usually	Always
26. I can clearly identify what emotion I am feeling.	1	2	3	4	5	6
27. I feel inadequate.	1	2	3	4	5	6
28. I have gone on eating binges where I felt that I could not stop.	1	2	3	4	5	6
29. As a child, I tried very hard to avoid disappointing my parents and teachers.	1	2	3	4	5	6
30. I have close relationships.	1	2	3	4	5	6
31. I like the shape of my buttocks.	1	2	3	4	5	6
32. I am preoccupied with the desire to be thinner.	1	2	3	4	5	6
33. I don't know what's going on inside me.	1	2	3	4	5	6
34. I have trouble expressing my emotions to others.	1	2	3	4	5	6
35. The demands of adulthood are too great.	1	2	3	4	5	6
36. I hate being less than best at things.	1	2	3	4	5	6
37. I feel secure about myself.	1	2	3	4	5	6
38. I think about bingeing (overeating).	1	2	3	4	5	6

	Never	Rarely	Sometimes	Often	Usually	Always
39. I feel happy that I am not a child anymore.	1	2	3	4	5	6
40. I get confused as to whether or not I am hungry.	1	2	3	4	5	6
41. I have a low opinion of myself.	1	2	3	4	5	6
42. I feel that I can achieve my standards.	1	2	3	4	5	6
43. My parents have expected excellence of me.	1	2	3	4	5	6
44. I worry that my feelings will get out of control.	1	2	3	4	5	6
45. I think my hips are too big.	1	2	3	4	5	6
46. I eat moderately in front of others and stuff myself when they're gone.	1	2	3	4	5	6
47. I feel bloated after eating a normal meal.	1	2	3	4	5	6
48. I feel that people are happiest when they are children.	1	2	3	4	5	6
49. If I gain a pound, I worry that I will keep gaining.	1	2	3	4	5	6
50. I feel that I am a worthwhile person.	1	2	3	4	5	6
51. When I am upset, I don't know if I am sad, frightened, or angry.	1	2	3	4	5	6

	Never	Rarely	Sometimes	Often	Usually	Always
52. I feel that I must do things perfectly or not do them at all.	1	2	3	4	5	6
53. I have the thought of trying to vomit in order to lose weight.	1	2	3	4	5	6
54. I need to keep people at a certain distance (feel uncomfortable if someone tries to get too close).	1	2	3	4	5	6
55. I think that my thighs are just the right size.	1	2	3	4	5	6
56. I feel empty inside (emotionally).	1	2	3	4	5	6
57. I can talk about personal thoughts or feelings.	1	2	3	4	5	6
58. The best years of your life are when you become an adult.	1	2	3	4	5	6
59. I think my buttocks are too large.	1	2	3	4	5	6
60. I have feelings I can't quite identify.	1	2	3	4	5	6
61. I eat or drink in secrecy.	1	2	3	4	5	6
62. I think that my hips are just the right size.	1	2	3	4	5	6
63. I have extremely high goals.	1	2	3	4	5	6

	Never	Rarely	Sometimes	Often	Usually	Always
64. When I am upset, I worry that I will start eating.	1	2	3	4	5	6
65. People I really like end up disappointing me.	1	2	3	4	5	6
66. I am ashamed of my human weaknesses.	1	2	3	4	5	6
67. Other people would say that I am emotionally unstable.	1	2	3	4	5	6
68. I would like to be in total control of my bodily urges.	1	2	3	4	5	6
69. I feel relaxed most in group situations.	1	2	3	4	5	6
70. I say things impulsively that I regret having said.	1	2	3	4	5	6
71. I go out of my way to experience pleasure.	1	2	3	4	5	6
72. I have to be careful of my tendency to abuse drugs.	1	2	3	4	5	6
73. I am outgoing with most people.	1	2	3	4	5	6
74. I feel trapped in relationships.	1	2	3	4	5	6
75. Self-denial makes me feel stronger spiritually.	1	2	3	4	5	6
76. People understand my real problems.	1	2	3	4	5	6

	Never	Rarely	Sometimes	Often	Usually	Always
77. I can't get strange thoughts out of my head.	1	2	3	4	5	6
78. Eating for pleasure is a sign of moral weakness.	1	2	3	4	5	6
79. I am prone to outbursts of anger or rage.	1	2	3	4	5	6
80. I feel that people give me the credit I deserve.	1	2	3	4	5	6
81. I have to be careful of my tendency to abuse alcohol.	1	2	3	4	5	6
82. I believe that relaxing is simply a waste of time.	1	2	3	4	5	6
83. Others would say that I get irritated easily.	1	2	3	4	5	6
84. I feel like I am losing out everywhere.	1	2	3	4	5	6
85. I experience marked mood shifts.	1	2	3	4	5	6
86. I am embarrassed by my bodily urges.	1	2	3	4	5	6
87. I would rather spend time by myself than with others.	1	2	3	4	5	6
88. Suffering makes you a better person.	1	2	3	4	5	6
89. I know that people love me.	1	2	3	4	5	6

	Never	Rarely	Sometimes	Often	Usually	Always
90. I feel like I must hurt myself or others.	1	2	3	4	5	6
91. I feel that I really know who I am.	1	2	3	4	5	6

This section asks a few questions about you. These questions help us to determine if we have surveyed a wide variety of people. This ensures that our results will reflect the many differing views that different people may hold on these issues. Please take a few minutes to answer these questions.

1. **What is your age?** _________ (years old)

2. **Are you:** (check the correct response)

   - ❑ Male
   - ❑ Female

3. **Are you:** (check the correct response)

   - ❑ Single
   - ❑ In a Committed Relationship
   - ❑ Married/Common Law
   - ❑ Divorced/Separated
   - ❑ Widowed

4. **Are you:** (check the correct response)

   - ❑ Caucasian
   - ❑ Aboriginal
   - ❑ Metis
   - ❑ Asian-Canadian
   - ❑ African-Canadian
   - ❑ Other ___________________________________

5. **What year of university are you in?** _____ (years)

6. **Do you have any children?** (check the correct response)

   - ❑ No
   - ❑ Yes ⟶ if yes: How many children do you have? _________

7. **Do you have any siblings (brothers, sisters)?** (check the correct response)

- ❑ No
- ❑ Yes ⟶ if yes: How many siblings do you have? __________

8. **How much do you currently weigh?** (list in *either* pounds or kg)

_____ pounds / _____ kilograms

9. **What do you consider to be your *ideal* weight?** (list in *either* pounds or kg)

_____ pounds / _____ kilograms

10. **How tall are you?** (list in *either* feet or meters)

____ feet ____inches / ____ meters _____cm

11. **Please rate the strength of your religious/spiritual beliefs.** (circle your response)

1	2	3	4	5
Not At All Strong		Moderately Strong		Extremely Strong

12. **Do you consider yourself to be a religious/spiritual person?** (circle your response)

1	2	3	4	5
Not At All		Moderately		Extremely

13. **How often do you participate in regular religious activities (attend church, synagogue, etc.)** (circle your response)

1	2	3	4	5
Never		Sometimes		Frequently

Thank you for taking the time to answer these questions.
Your cooperation is very much appreciated.

Appendix B

Consent Form

You are invited to participate in a study entitled "Factors That Influence Decisions to Become Pregnant". Please read this form carefully and feel free to ask questions you might have.

Name of Researchers: Dr. Karen Lawson, Department of Psychology (966-2425) and Tanya Robertson-Frey (966-6672), Department of Psychology.

Purpose and objectives of the study: While it is known that many factors may influence a woman's decision to become pregnant, there is little empirical research that has investigated this topic. The purpose of this study, therefore, is to examine what factors may have an impact on the decision to have children and on attitudes/behaviours if one were pregnant.

Procedure: Participants will complete a brief questionnaire by indicating their level of agreement with a series of statements and supplying demographic information. The entire questionnaire should take less than 30 minutes to complete.

Possible benefits of the study: This study will help clarify what factors may affect the intentions for women to become pregnant. Participants will gain experience with social psychology, and if they wish, will be given the opportunity to learn of the results of the study by contacting the researchers.

Possible Risks: This questionnaire asks you about personal opinions and experiences, but because these are issues that touch all women, there are no real risks to filling out the survey. However, you are free to decide not to complete the questionnaire at any time without penalty. You can also decide not to answer any specific question that makes you uncomfortable. In the event that you find any of these questions upsetting and wish to speak to a counselor about these issues, please contact the primary researcher (contact information above) for a referral.

Storage and Use of Data: The data will be stored in the principle researcher's laboratory for a 5 year period within locked filing cabinets. The aggregate data will form the basis for the second researcher's Master's thesis and scholarly publications and conference presentations.

Questions: If you have any questions concerning the study, please feel free to ask at any point; you are also free to contact the researchers if you have questions at a later time. This study has been approved on ethical grounds by the University of Saskatchewan Behavioural Sciences Research Ethics Board on September 5, 2003. Any questions regarding your rights as participants may be addressed to that committee through the Office of Research Services (966-2084).

Consent to Participate: I have read and understood the description provided above and agree to participate; I have been provided with an opportunity to ask questions and my questions have been answered satisfactorily. I understand that I am free to withdraw from this study at any time without penalty of any type (including the loss of a research credit). I also understand that the data from this study will be used solely for research

purposes and that only aggregate data will be described within the thesis and any ensuing publications or presentations, and that my identity kept anonymous at all times. A copy of this consent form has been given to me for my records.

____________________	______________________	_____________________
Signature of Participant	Signature of Researcher	Date

Appendix C

Debriefing Form

Body Image and Pregnancy: Application of the Theory of Reasoned Action

Women today face a lot of social pressure to be thin and to have children. While the majority of women may have some difficulty balancing these two pressures, women dissatisfied with their appearance may have even greater difficulty. There is however, a lack of research examining the attitudes towards pregnancy for women dissatisfied with their appearance, and how these attitudes subsequently affect the intentions of these women to become pregnant.

The purpose of this study was to examine intentions to become pregnant for women dissatisfied with their appearance using the theory of reasoned action as a framework. According to this theory, both attitudes towards the outcomes of pregnancy and the social pressures of being thin and having children must be taken into account when determining if the behaviour will be performed (Ajzen and Fishbein, 1980). It is also taken into account one's motivation to comply with the perceived pressure of thinness and having children.

It was hypothesized that women with body dissatisfaction would hold more negative attitudes regarding the outcomes of pregnancy and would show greater conflict between the social norms to be thin and the social norms to parent, resulting in a lower intention to become pregnant than women who are not dissatisfied with their appearance. It was also hypothesized that women with body dissatisfaction would report a willingness to engage in various unhealthy weight control measures in order to conform to the social norm of thinness in the event of a pregnancy.

It is hoped that by achieving a greater understanding of this issue, the findings will have an impact on both the psychological treatment of women with body image concerns and the medical protocols used by obstetricians in caring for patients with body image concerns. Thank you for your participation in this study. If you have any questions or comments, please contact Dr. Karen Lawson, Department of Psychology, 966-2524 or Tanya Robertson-Frey, Department of Psychology, 966-6672.