PERCEPTIONS OF TIME AND PARTNER PREFERENCE
ACROSS ADULTHOOD: EXAMINING SOCIO-EMOTIONAL SELECTIVITY
THEORY IN PHYSICAL ACTIVITY

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By
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ABSTRACT

One psychological construct that can be used to explain why people have difficulty maintaining a physically active lifestyle is time perspective (Hall & Fong, 2003). Perceptions of time have important implications for emotion, cognition, and motivation (Carstensen, Isaacowitz, & Charles, 1999). The Socio-Emotional Selectivity Theory (SEST) is a life span theory of social motivation in which perceptions of time are linked to the selection and pursuit of social goals and the subsequent preferences for social partners. There is a lack of research that examines the SEST in other contexts and the physical activity setting provides a unique setting because of the health benefits it provides. Thus, the purpose of this research was to investigate the relationship between individual perceptions of time and partner preference across adulthood, and more specifically, to test the predictions of the Socio-Emotional Selectivity Theory (SEST) in physical activity. The sample consisted of 95 participants between the ages of 19 and 93 (M age = 51.5, SD = 20.2). Each participant completed a questionnaire package that contained a demographics section (age, gender, household income, etc.), ratings of physical and mental health, physical activity measures (Godin Leisure-Time Exercise Questionnaire, Seven-Day Physical Activity Recall, Physical Activity Rating), Future Time Perspective Scale (FTP; Carstensen & Lang, 1995), Time Perspective Questionnaire (TPQ; Fong & Hall, 2003), and a preferred context of exercise question. In addition, each participant completed card-sorting tasks designed to identify whom each participant would prefer to be physically active with if given the choice and to identify whom each participant was currently physically active with. Using the FTP,
bivariate correlations showed a significant negative relationship between age and perceptions of time ($r = -0.87, p < 0.05$), a significant positive relationship between physical activity and time perspective ($r = 0.64, p < 0.05$), and between age and physical activity ($r = -0.46, p < 0.05$). When examining the relationship between perceptions of time and partner preference, partial support for the SEST was shown. There were three knowledgeable (e.g., “An interesting stranger”) and two formal partners (e.g., “A personal trainer”) that were preferred by people with an expansive perception of time, which showed support for the SEST. However, one knowledgeable partner (“A clergy person”) and one formal partner (“A medical doctor”) were preferred by those with a limited perception of time, which contradicts the SEST. Also, in contrast, the family/relative partners were expected to be preferred by those with a limited perception of time; however, results showed that these partners were preferred by all regardless of age. Also, three friend/acquaintance partners were preferred by people with an expansive perception of time, which contradicts the SEST. Finally, the controversial partners revealed no significant result, which does not lend support to the SEST. This study also had the opportunity to examine actual physical activity partners. Results revealed a relationship between perceptions of time and actual physical activity partners for 5 out of the 18 partner cards. When examining the relationships between the preferred physical activity partners and the actual partners, 7 out of 18 partners showed a significant relationship. In addition, a significant relationship was found between the two time perspective scales ($r = .51, p < 0.01$). In conclusion, time perspective seems to be an important factor to consider in predicting partner preference in physical activity.
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DEDICATION

I would like to dedicate this thesis to my parents and best friends, George and Delia Compton, for their unconditional love and support throughout all my endeavours.
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1.1 INTRODUCTION

Research has shown that regular participation in physical activity is associated with prevention of chronic disease and promotion of well being (van der Bij et al., 2002). Physical activity has also been shown to decline with age (Statistics Canada, 2002). Since Lee and Skerrett (2001) stated that there is an inverse linear dose-response relationship between the amount of physical activity and all-cause mortality rates in men and women and in younger and older (>60 yrs) persons, it is important to get inactive individuals to be more active. An important factor in regard to adhering to and enjoying exercise programs in the elderly is social support.

Examining individual perceptions of time (how someone perceives their time left in life) provides researchers with an exciting new theme that can be used to examine physical activity and health interventions. The Socio-Emotional Selectivity Theory states that when an individual’s perception of time is limited, emotionally supportive and familiar (or intimate) partners will be the priority. In contrast, when an individual’s perception of time is expansive or open-ended, knowledge will be the priority, which is accompanied by choosing novel partners (or acquaintances) in order to take full advantage of the knowledge that can be gained. These relationships have not been examined in the physical activity setting to see if the preferred partners would change.
There are also alternative ways of examining time perspective. Hall and Fong (2003) distinguished between short-term and long-term time perspectives. Short-term time perspective is concerned with focusing on the “here and now” and has been shown to be negatively associated with healthy behavioural practices. On the other hand, long-term time perspective is focusing on long-term consequences of actions and therefore, engagement in health protective behaviours. This alternative method is used in an exploratory manner in this study.

The main objective of this study was to investigate the relationship between individual perceptions of time left in life and partner preference across adulthood in the physical activity setting. More specifically, the objective was to test the Socio-Emotional Selectivity Theory in physical activity. It should be noted that the physical activity setting provides a unique context in which to examine perceptions of time because of the health benefits it provides.

1.2 REVIEW OF THE LITERATURE

1.2.1 Health and Physical Activity

In the 21st century, Canada’s population has become the oldest it has ever been. The median age of Canadians is 37.6 years old with the fastest growing age group being person’s aged 80 and above (Statistics Canada, 2002). One area of concern with the aging population is the health and quality of life in older adults. Adults over the age of 65 have reported the highest prevalence of health concerns (Statistics Canada, 2002). For those Canadians over the age of 65, eight years for males and eleven years for females are the average times spent with a disability (Statistics Canada, 2002). An important preventative practice that has the potential to restructure the occurrence of certain diseases and improve quality of life is physical activity (Mazzeo et al., 1998).
Participation in regular physical activity is acknowledged as one of the most important health behaviours associated with the prevention of chronic disease and the promotion of well being in the elderly population (van der Bij et al., 2002). Lee and Skerrett (2001) stated that there is an inverse linear dose-response relationship between the amount of physical activity and all-cause mortality rates in men and women and in younger and older (>60 yrs) persons.

Unfortunately, the rate of physical activity declines with age (Statistics Canada, 2002). Most physical activity intervention programs tend to focus on the need to change personal attributes (i.e. attitudes, intentions, self-efficacy) among individual exercise participants (King, 1994). Researchers have called for the increased study of mediators of interventions designed to increase exercise adherence (Brassington, Atienza, Perczek, DiLorenzo, & King, 2002). Baron and Kenny (1986) conceptualized mediators as possible mechanisms through which one variable may be related to another variable. In general, a given variable may function as a mediator to the extent that it accounts for the relationship between the predictor and the criterion (Baron & Kenny, 1986). Mediators speak to how or why such effects happen when it comes to this relationship (Baron & Kenny, 1986). Some have also argued that the investigation of intervention mediators will advance theory and provide significant information that can be used to progress the usefulness of successive interventions (Brassington et al., 2002). Thus, an approach that attempts to address social factors influencing physical activity at the group and community level can be an alternative to individualized exercise recommendations (Carron, Hausenblas, & Mack, 1996).
1.2.2 Endorsement of Social Support in the Physical Activity Setting

One of the most important factors in adhering to and enjoying exercise programs for the elderly is considered to be social support or perceived encouragement by significant others (O'Brien Cousins, 1995). There are studies that have shown a relationship between social support and health enhancing/impairing behaviours (Duncan & McAuley, 1993). Buddy systems, spousal participation, encouragement, and positive feedback from exercise leaders and fellow participants have all been suggested as factors associated with individuals continuing with their exercise programs (Duncan & McAuley, 1993). Research has shown that there are opportunities for older adults who participate in a group exercise program to develop supportive social networks (O'Brien Cousins, 1995). Moreover, individual’s exercise maintenance could be significantly influenced by social support from a good leader, a group, or a friend within the program (Wankel, 1984). Also, social influences from the interpersonal relationships of older adults have been recognized as important determinants of their physical activity involvement (Chogahara, O'Brien Cousins, & Wankel, 1998). With all the research on social support, it has been suggested that it has a positive influence on exercise behaviour, cognitions about exercise involvement, and attitudes associated with exercise experience (Carron et al., 1996). Individuals should be provided with continued support in order to help enhance their beliefs about personal capabilities; therefore, social network members may help the individual avoid the funnel that leads to a relapse of health-impairing behaviours (Wills, 1985).

There is evidence to suggest that groups are an important factor in the physical activity setting. Stahle, Lindquist, and Mattsson (2000) performed a study with the aim to identify and describe the factors that are important to elderly (>65 years) patients who
were physically active one year after acute myocardial infarction (heart attack). The participants were randomized to one of two groups. The first group was a supervised outpatient-group training program, consisting of 50-minute workouts three times a week for 3 months. The second group was the control group. When social interaction was examined, it was found that the patients' own opinion about why it is important to exercise included: good health, maintain area of fitness levels after the training period, and opportunity to meet other people in the same situation. Being together with other group members in a similar situation brought a sense of confidence when exercising.

There is also evidence to show that there can be a difference in partner preference depending on whether individuals are involved in a structured or non-structured physical activity setting. Deforche and De Bourdeaudhuij (2000) recruited participants from senior citizen homes to investigate differences in physical activity levels and to identify psychological determinants of physical activity between seniors involved in an exercise class and seniors not engaged in organized physical activity. As part of the process to obtain information on the past, present, and future participation in physical activities, the participants were asked to indicate which activities they have been, are, and will be involved in. They were also asked how physically active they were as compared to others of the same age and gender. Finally, they were asked whether they would like to be physically active in different contexts (i.e., alone, with friends, in an organized group, etc.). The results from the different contexts showed that the elderly in the “organized group” preferred to exercise with others in the same class, while the elderly in the “non organized group” preferred to exercise in the company of friends. Also, the “organized” group was more physically active on an individual basis and was
provided with the opportunity to be more active. This lends support for the need to examine partner preference further.

1.2.3 Time Perspective and Physical Activity

Although there are many health benefits associated with regular physical activity, cross-sectional data has generally indicated that with advancing age comes a decline in participation in physical activity (Stephens & Casperson, 1994). One psychological construct that may be used to explain why people have difficulty maintaining a physically active lifestyle is time perspective (Hall & Fong, 2003). Thus, time perspective can be used by researchers to organize thinking about health and physical activity interventions (Hall & Fong, 2003). There are different ways of looking at time perspectives such as the Socio-Emotional Selectivity Theory (Carstensen, 1991, 1993, 1995, 1998; Carstensen, Gross, & Fung, 1997) or the short-term and long-term time perspective discussed by Hall and Fong (2003).

Carstensen and colleagues (Carstensen, 1991, 1993, 1995, 1998; Carstensen, Gross, & Fung, 1997) developed the Socio-Emotional Selectivity Theory (SEST) in order to address social goals and partners that are chosen throughout the life cycle. Their theoretical model is explained in section 1.2.4 in order to clarify how individuals choose their social goals and partners throughout life. The basis of this study is to test this theory in physical activity. An alternative perspective on time, the short-term versus long-term time perspective, was used in an exploratory manner, and is also described in more detail in section 1.2.7.

1.2.4 Overview of the Socio-Emotional Selectivity Theory (SEST)

The SEST is a lifespan social motivation theory, which predicts that perceptions of time left in life play a central role in the prioritization of social goals and subsequent
preferences for social partners (Carstensen, 1991, 1993, 1995, 1998; Carstensen, Gross, & Fung, 1997). This theoretical model addresses the reduced rates of interaction in late life, which are viewed as the result of lifelong selection processes (Carstensen, 1992). This process involves individuals strategically choosing their social networks to maximize social and emotional gains and minimize social and emotional risks. Although the theory acknowledges life experience as an important factor in emotional development, the main focus is on individual perceptions of time rather than past experience (Carstensen, Pasupathi, Mayr, & Nesselroade, 2000). The SEST argues that individual abilities to consciously and subconsciously monitor time plays a key role in motivation and emotion, which in turn will provide the structure within which goals are set, pursued, and evaluated (Carstensen et al., 2000). Essentially, SEST maintains that an individual’s perception of time, whether it is expansive (perceiving that there is plenty of time left in life) or limited (perceiving that there is not much time left in life), influences the evaluation process that precedes goal selection (Carstensen, Isaacowitz, & Charles, 1999).

1.2.5 Social Goals Throughout the Life Course

According to SEST, diverse social goals, ranging from seeking information about a topic (i.e., exercise benefits) to seeking emotional stability, can be classified into two broad functional categories: those related to the acquisition of knowledge about the self and social world and those related to the regulation of emotion (Carstensen et al., 1999; Turk-Charles & Carstensen, 1999).

Contact with others provides a primary source for the acquisition of knowledge. This comes from observing other people, as well as receiving direct instruction from them. Social contact with others allows people to master their social skills and can also
contribute to helping them master their nonsocial skills. Therefore, familiarizing oneself with a broad spectrum of people allows individuals to understand their own social climate, come to learn and understand their own likes and dislikes, and begin to evaluate themselves in relation to others (Carstensen et al., 1999). Developmentally, the knowledge trajectory starts high during the early years of life and declines gradually over the life course (Carstensen et al., 1997).

The category of regulation of emotion encompasses motives to feel good, deriving emotional meaning from life, establishing intimacy, and verifying the self (Carstensen et al., 1997). This stage is important for the individual’s attempts to maximize social and emotional gains and minimize social and emotional risks. An increased ability to regulate emotions partly comes from interacting with well-known, emotionally meaningful social partners who provide meaningful emotional experiences (Turk-Charles & Carstensen, 1999). The need for emotional gratification is highest during infancy and early childhood because this is when emotional trust is initially established (Carstensen et al., 1997). Emotional gratification will then rise again in old age when future-oriented motivations are less relevant (Carstensen et al., 1997).

Even at the cost of emotional satisfaction, knowledge strivings are pursued from late adolescence to middle adulthood because they are so important (Carstensen et al., 1997). Later in life, individuals are faced with limited time, which results in their goals being dedicated to the satisfaction of the “feeling” state that is present in the “here-and-now” (Carstensen et al., 1997). Thus, the SEST suggests that an individual’s perception of time left in life will show age-related differences that lead to the developmental trends
Figure 1.1. Idealized Model of Socio-Emotional Selectivity Theory's Conception of the Salience of Two Classes of Social Motives Across the Life Span

(Carstensen et al., 1999)
in the ranking of knowledge-related and emotional goals and partners (Carstensen et al., 1999). The knowledge-related trajectory is high during the early years of life and declines gradually as knowledge is gained and the future grows shorter (Carstensen et al., 1999; See Figure 1.1). The emotional trajectory is also high at the beginning, but will decline beginning with adolescence and continuing throughout early adulthood. However, it will rise again beginning in later adulthood and continue to rise into old age as emotional experiences and meaningful and supportive relationships are required in a time of need as future-oriented goals become less relevant. Lang and Carstensen (2002) found future time perceptions (as measured by the FTP scale) to be strongly negatively associated with age ($r = -0.70$), suggesting that the older a person gets the greater the chance that their perception of time will be limited as opposed to expansive (open-ended).

1.2.6 The Role of Time in Goal Salience and Social Partner Choice

One of the principal tenets of SEST is that the perception of time plays a critical role in the ranking and execution of behaviours geared toward specific goals. An individual’s cognitive appraisal of his/her time left in life will help in balancing long-term and short-term goals in order to adapt effectively to his or her particular circumstances (Carstensen et al., 1999). Carstensen and Lang (1995) developed the Future Time Perspective Scale (FTP) in order to determine the degree of each individual’s future time perspective. The scale is described further in section 2.1.2.3.1.

When individuals perceive their time as being expansive (or open-ended) their social goals and partner preference will be geared towards knowledge-related goals and novel social partners. The individual will be more focused on information gain, and therefore, strive to maintain relatively larger and more diverse social networks that
would include a larger number of novel social partners (Turk-Charles & Carstensen, 1999).

When individuals perceive their time as limited, their social goals and partner preference will change. The social goals will shift from those that are future oriented (reflected in the knowledge trajectory) to those that are more present oriented (reflected in the emotion trajectory) (Carstensen et al., 1997). The partner preference will be geared toward decreasing the social network size because social partners will be selected in order to maximize positive emotional experiences (Turk-Charles & Carstensen, 1999). Close social circles for older adults will help to affirm their sense of self and to help provide support in times of need.

Lang and Carstensen (2002) examined the relationship between partner preference and perceptions of time with the FTP and a card sorting task. Participants were asked to arrange 18 different partner cards into as many piles as necessary according to most preferred and least preferred partners in an everyday setting. The eighteen cards fell into five different categories that included: family/relative (e.g., a younger relative), friend/acquaintance (e.g., a close friend), knowledgeable partner (e.g., an interesting stranger), formal partner (e.g., a medical doctor), and controversial partner (e.g., someone who I know well but do not like). According to the SEST, it was expected that those with a limited perception of time would prefer partners from the family/relative and friend/acquaintance categories while those with an expansive perception of time would prefer partners from the knowledgeable, formal, and controversial partner categories. Lang and Carstensen (2002) found that when perceiving time as limited, individuals preferred family/relatives ($r = -.19, p < .01$) and formal partners ($r = -.12, p < .01$). Conversely, when perceiving time as expansive,
knowledgeable partners ($r = .10, p < .05$) and friends/acquaintances ($r = .23, p < .01$) were preferred. The partners from the controversial category revealed no significant results. The friend/acquaintance category was preferred by those with an expansive perception of time, which was different from expected, but was attributed to the category being mostly concerned with casual friends and acquaintances. The proposed rationale for formal partners being preferred by those with a limited perception of time was that seeking or preferring formal partners (i.e., a medical doctor to discuss the future with; a lawyer to set up a will) may also serve the purpose of emotion regulation during this time of need when time is narrow (formal partners can typically provide information or benefits immediately). Additionally, in the Lang and Carstensen (2002) study, the relationship between perceptions of time and partner preference was examined accounting for covariates (gender, socioeconomic status, physical and mental health, and residual age). After accounting for the combined covariates, the relationship remained unchanged for the family/relative and formal partner category and there was a minimal change for the friend/acquaintance category ($r = .22, p < .01$). However, the knowledgeable partner category was no longer significant with the opposite occurring for the controversial partner category, which became significant ($r = .12, p < .01$).

It is also important to note that younger people will typically prefer novel social partners relative to older people who will typically prefer familiar social partners, but such tendencies are flexible because they are linked to perceptions of time. For example, if a younger person was put into a situation in which time was limited (e.g., anticipating a move to another continent) or an older person was put into a situation in which time was expanded or unlimited (e.g., a life extending surgery) preferences could shift noticeably (Carstensen et al., 1999). Before the younger adult moves, he/she might
prefer to spend quality time with the ones they love. In contrast, if an older adult’s life is extended, he or she will likely be more open to meeting and entertaining new friends.

These predictions of the SEST were tested by Fung, Carstensen, and Lutz (1999) who examined social preferences in younger and older people under conditions that clearly expand time to see whether expanding time would eliminate age differences. They accomplished this by presenting the participants with two scenarios. The first was an unspecified condition followed by an experimental condition. In the first scenario, when time was unspecified, older adults preferred familiar social partners and younger people did not (replicating the patterns found by Fredrickson and Carstensen, 1990). For the second scenario the participants were told that their doctor had found out about a new medical advancement that ensures that patients will live 20 years beyond their expected age. When the time was expanded, older adults no longer showed the preference for familiar social partners. This suggests that extending the perceived future time can shift social preferences (Fung et al., 1999). However, in most cases age is strongly related to perceptions of time.

1.2.7 Alternative Method of Examining Time Perspective

As an alternative to looking at time, Hall and Fong (2003) distinguished between short-term and long-term time perspectives. Short-term time perspective is associated with focusing on the “here-and-now” and has been shown to have a negative relationship with healthy behavioural practices (Hall & Fong, 2003). Essentially, individuals who focus on the short-term consequences of their actions will be more likely to engage in health damaging behaviours. An example of this is an individual who lights up a cigarette. This individual may do so because it is potentially associated with a variety of immediate benefits (e.g., feelings of well-being, avoidance of withdrawal symptoms)
It is obvious they are not as concerned with the long-term consequences of smoking cigarettes, in which the balance of costs and benefits becomes reversed because it is so harmful.

On the other hand, individuals who possess a long-term time perspective are more likely to engage in health protective behaviours because they are more focused on the long-term consequences of their actions (Hall & Fong, 2003). An example could be individuals who are exercising in order to maintain a healthy lifestyle and to prolong their life. These individuals are often aware that regular physical activity can lead to such things as reductions in state anxiety, improvements in various stress indices, decreases in body fat and body weight, and so on (Carron et al., 1996).

One possible explanation for why people have difficulty instigating and maintaining a program of regular physical activity is that there are short-term costs associated with regular physical activity (Hall & Fong, 2003). For some, these short-term costs are more important to recognize than the long-term benefits when people make decisions about being active (Hall & Fong, 2003). Some examples of the short-term costs that some may focus on are that physical activity can be inconvenient, uncomfortable, and even embarrassing (Hall & Fong, 2003). For example, beginner exercisers who do not have much knowledge when walking into a workout facility could feel self-conscious and intimidated. Working out can lead to pain and discomfort as a consequence of initial efforts of being active. These side effects can happen to all exercisers; therefore, for the long-term, it is important to highlight that physical activity is associated with a large number of psychological, physical, and physiological benefits (e.g., reduce state anxiety, reduce stress, decrease body fat and weight) (Carron et al., 1996). Thus, it is critical to explain and make people understand the various beneficial
long-term effects of regular physical activity and the negative effects of being sedentary (Hall & Fong, 2003). However, Hall and Fong have indicated that highlighting the nature of the long-term benefits of physical activity is important, but not sufficient. In order for the presentation of these future outcomes to influence an individual’s present behaviour, it is necessary to psychologically link the potential long-term benefits to the healthy behaviour patterns that they are involved in now (Hall & Fong, 2003).

The initial effort of Hall and Fong (2003) to understand the relationship between time perspective and health behaviour resulted in the development of an individual difference measure. The Time Perspective Questionnaire (TPQ) was developed in order to ask participants to describe themselves with reference to statements about their assessment of short-term versus long-term outcomes (e.g., “living for the moment is more important than planning for the future”), and the influence of these long-term outcomes on their decision making processes (e.g., “I have a defined set of long-term goals that I think about when I make decisions in my life”). The validity of the TPQ was tested and it was found that university students who had a long-term time perspective were less likely to engage in health-damaging behaviours and more likely to engage in health-protective behaviours compared to the university student counterparts who had a short-term time perspective (Fong & Hall, 2003). Thus, time perspective seems to be a valuable construct in predicting and understanding health-damaging and health-protective behaviours (Fong & Hall, 2003).

Having identified that there are different ways to examine time perspective, the next step is to discuss how they may relate to one another. It would make sense that those people who perceive their time left in life as limited would be more likely to focus on the short-term consequences of their actions and thus have a short-term time
perspective. Alternatively, those people who perceive their time left in life as open
ended or expansive would be more likely to be concerned with the long-term
consequences of their actions and thus have a long-term time perspective. However,
there is the possibility that these relationships will not match. For example, individuals
might view their time left in life different from how they view their actions in regards to
the short-term or long-term consequences. It is possible that a person who perceives
their time as limited might go through their entire life with a long-term time perspective.
The relationship between these constructs has not been examined to date.

1.2.8 Time Perspective and Partner Preference in the Physical Activity Setting

Previous research has shown support for the relationship between perceptions of
time (assessed using the FTP scale) and partner preference (assessed by partner-
preference card-sort tasks) in a non-physical activity setting (Carstensen & Fredrickson,
1998; Fredrickson & Carstensen, 1990; Lang & Carstensen, 2002). As the SEST
suggests, people who perceive their time left in life as limited are more likely to choose
familiar social partners to serve their regulation of emotion needs. Alternatively, people
who perceive their time as expansive are more likely to choose novel social partners to
serve their acquisition for knowledge needs.

However, the physical activity setting provides a unique situation because of the
previously mentioned benefits it provides, and it is hypothesized that the strength of the
relationship between individual perceptions of time and partner preference could be
different from the relationship explained by SEST in non-physical activity settings. Fung
et al. (1999) examined social preferences in younger and older people under conditions
that clearly expand time to see whether expanding time would eliminate the age
differences. They found that when time was unspecified, older people preferred familiar
social partners and younger people preferred novel social partners. This replicated the pattern of findings from Fredrickson and Carstensen (1990). However, when Fung et al. (1999) expanded time, older people no longer showed such preferences for familiar partners. This suggests that social preferences and the social goals are flexible and can be shifted by extending perceived future time. Therefore, although the predictions of the SEST are expected to hold in physical activity, if one of the benefits of physical activity is to extend perceived future time, there is the possibility that the directions of the relationships may differ in the relationship between individual perceptions of time and partner preference.

1.2.9 Time Perspective, Preferred Partners, and Actual Partners in the Physical Activity Setting

Although the primary focus of this study was to examine the partner preference relationships in the physical activity setting, it is important to examine how these preferred partners are associated with the actual physical activity partners of the participants. It is likely that people typically exercise with the partners that they would prefer to exercise with. However, this may not be a 1:1 relationship. For example, if someone is going through rehabilitation (e.g., cardiac rehabilitation) they may be required to work out with a rehabilitation group and not their preferred regular exercise partner. The relationship between preferred and actual partners has been overlooked in current SEST research.

1.2.10 Summary

In summary, it has been established that regular participation in physical activity is associated with prevention of chronic disease and promotion of well being. Since there is an inverse linear dose response relationship between the amount of physical...
activity and all-cause mortality rates, it is important to get inactive older adults to be more active. One important factor that has been discussed in regard to adhering to and enjoying exercise programs in the elderly is social support. By examining individual perceptions of time and the partners people choose in the physical activity setting, this will allow them to recognize who they prefer to be their support network.

The Socio-Emotional Selectivity Theory states that when an individual’s perception of time is limited, emotionally supportive and familiar (or intimate) partners will be the priority. In contrast, when an individual’s perception of time is expansive or open-ended, knowledge will be the priority, which is accompanied by choosing novel partners (or acquaintances) in order to take full advantage of the knowledge that can be gained. This study looked at these partner preference relationships and individual perceptions of time in the physical activity setting. As well, the study examined the relationships between actual partners and individual perceptions of time in the physical activity setting, preferred and actual physical activity partners, and two measures from the time perspective constructs.

1.2.11 Contribution to the Literature

This research is expected to make three main contributions to the literature. First, the two time perspective measures (Future Time Perspective Scale and the Time Perspective Questionnaire) have not been used together in previous research. The FTP has been used as the primary measure in previous literature that has examined the relationship between perceptions of time and partner preference (e.g. Lang and Carstensen, 2002). Second, this study was intended to provide insight into using time perspective as an alternative method to guide future physical activity interventions. When designing a physical activity interventions, individual attributes (i.e. attitudes,
intentions, self-efficacy, etc.) need to be addressed, but social factors that influence physical activity should be examined at the group and community level. A potential social factor that could be used to help guide physical activity interventions is time perspective. Third, this study is expected to provide insight on whether or not the SEST is appropriate for the physical activity setting, which has no been examined to date.

1.3 STATEMENT OF THE PURPOSE AND HYPOTHESES

The purpose of this study was to assess the relationship between individual perceptions of time and partner preferences in the physical activity setting. Thus, the main objective was to test the predictions of the Socio-Emotional Selectivity Theory in the physical activity setting. The secondary objective was to examine the same relationship utilizing the long-term versus short-term time perspective construct. This construct was used in an exploratory manner because it has not been previously used across the life span. Other objectives of this study included: (a) examining the relationship between age, physical activity levels, and perceptions of time, (b) examining the relationship between individual perceptions of time and actual physical activity partners, (c) examining the relationship between preferred partners and actual partners in the physical activity setting, and (d) examining the relationship between the two time perspective models.

1.3.1 Preliminary Hypotheses

i) Age will be negatively related to perceptions of time left in life.

*It was hypothesized that the younger and middle aged adults would perceive their time left in life as expansive (open-ended or having plenty of time left in life) and older adults would perceive their time left in life as limited (having a limited amount of time left in life).* It was also hypothesized that younger and middle aged adults would...
have a long-term time perspective (a focus on the long-term consequences of their actions) and older adults would have a short-term time perspective (a focus on the "here and now").

ii) Age will be negatively related to physical activity levels.

*It was hypothesized that the older adults' physical activity levels would be lower when compared to the younger adults.*

iii) Perceptions of time will be positively related to physical activity levels.

*It was hypothesized that expansive perceptions of time and long-term time perspectives would be related to higher physical activity levels compared to a limited and short-term time perspective.*

1.3.2 Primary Hypotheses

i) Individual perceptions of time will be related to partner preference in the physical activity setting.

*When examining this relationship with the FTP scale, it was hypothesized that individuals who perceive their time left in life as expansive would choose novel social partners in order to serve the acquisition of knowledge purpose. Thus, it was expected that these individuals would prefer to be physically active with partners from the friend/acquaintance, knowledgeable partner, controversial partner, and the formal partner categories. The friend/acquaintance category is included here because it is concerned mostly with casual friends and acquaintances.*

*On the other hand, it was hypothesized that those individuals who perceive their time left in life as limited would choose familiar social partners in order to serve the regulation of emotions purpose. Thus, it was expected that these individuals would prefer to be active with partners from the family/relative category.*
When examining this relationship with the TPQ scale, the results were expected to be similar. In other words, a long-term time perspective was expected to yield the same results as an expansive perception of time and a short-term time perspective was expected to yield the same results as a limited perception of time.

ii) Individual perceptions of time will be related to partner preference in the physical activity setting when accounting for covariates (age, gender, perceived physical health, perceived mental health, socioeconomic status, and physical activity levels).

When accounting for covariates the association between future perceptions of time and the partner categories is expected to remain unchanged.

1.3.3 Secondary (Exploratory) Hypotheses

i) It was expected that actual exercise partners would be positively related to preferred partners.

ii) Individual perceptions of time would be related to actual exercise partners.

iii) The Future Time Perspective Scale (FTP) would be related to the Time Perspective Questionnaire (TPQ).
CHAPTER 2

2.1 METHOD

2.1.1 Participants

The sample consisted of 95 participant volunteers. A total of 31 participants were from the older adult group (ages 65 and above; mean = 75.58, SD = 7.07), 31 participants from the middle-aged group (ages 41-64; mean = 51.06, SD = 6.30), and 33 participants from the young adult group (ages 18-40; mean = 29.40, SD = 6.91). The male to female ratio was 15:18 for the older adult group, 13:18 for the middle-aged group, and 16:15 for the young adults group.

It has been suggested that there are many factors involved when selecting the sample size, which is why there is no definite answer to how large a sample size should be (Hinkle, Wiersma, & Jurs, 1994). When a sample size consists of more than 30 participants, the approximation of the sampling distribution to a normal distribution is usually quite close (Hinkle et al., 1994). This is so even when the population is not normally distributed (Hinkle et al., 1994). As a result, participants from three age cohorts were targeted (including 30 older adults, 30 middle-aged adults, and 30 young adults) to approximate a normal distribution and have a representation across the age span. With a total of 90 participants, an $r$ value of .205 at an alpha level of .05 was accepted as significant (Vincent, 1999), which was deemed meaningful based on
relationships of similar strength in previous SEST research (e.g., Lang and Carstensen, 2002).

The age categories were determined by investigating previous research that studied perceptions of time. For example, Lang and Carstensen (2002) explored the extent to which an individual’s future perception of time was related to his/her social motivation and to the composition and perceived quality of his/her personal network. Three age cohort groups were distinguished that included young adults (ages 20 to 40; mean age = 30.7 years), middle-aged adults (ages 45 to 65; mean age = 55.7 years), and older adults (ages 70 to 90; mean age = 80.7 years).

Support for the older adult age group being defined as 65 and older comes from Statistics Canada (Statistics Canada, 2002) and the American College of Sports Medicine (Mazzeo et al., 1998). Both of these organizations define older adults as being 65 and older. Also, Washburn, Jette, and Janney (1990) performed a study using age-neutral physical activity questionnaires in research with older adults, which compared physical activity levels reported on an age-neutral questionnaire with physical activity estimates derived from a 3-day activity diary in 123 community-dwelling volunteers. The older adult volunteers were 65 to 91 years of age. These sources suggest that having the older adult age cohort begin at 65 years of age is acceptable.

For this study, each age cohort consisted of home-dwelling community residents from the city of Saskatoon. Home-dwelling community residents were targeted for each age cohort in order to reduce the influence that place of residence could have. Older adults who are in assisted living complexes and receiving help for everyday tasks could have a different perception of time than those older adults who are home-dwelling and more independent. Plus, having all the participants across adulthood as home-dwelling
community residents allowed for more consistency because everyone was in relatively the same living situation.

2.1.2 Measures

2.1.2.1 Demographic and Covariate Questionnaire

The purpose of the demographic questionnaire was to obtain information on important variables that were needed to provide information about the participant sample and for data analysis. Participants was asked to answer questions in regard to their age, gender, level of education and professional qualifications, occupational job title, household income, current marital status, amount of children, current living partners, current place of residence, and self-rated physical and mental health (see Appendix A).

The first question of the questionnaire asked participants to fill in their age. Age was an important variable that was used as a covariate in the data analyses. Participants were then asked to indicate their gender by circling either male or female, as gender was used as a covariate in the data analysis. Given that this study sample attempted to have an equal distribution of men and women, it was important to have this variable identified.

In order to provide some in depth information about the sample, participants were asked to identify years of education, professional qualifications, and current job status. Years of education was assessed with two indicators. The first was to ask participants to indicate the degrees/diplomas that they have completed to date. This was followed by having them identify how many years it took to complete each degree/diploma. Second, they were asked to indicate their professional qualifications and the amount of years required in order to achieve these qualifications. Third, each participant was asked to specify their current or last job. Finally, participants were asked
to indicate their last job title if they were unemployed or retired and how long since that position was held.

Household income was used to assess socioeconomic status. Fung and colleagues (Fung et al., 1999; Fung et al., 2001; Fung, Carstensen, & Lang, 2001) have used household income to assess socioeconomic status in studies that examined perceptions of time. Participants were asked to choose from a list and identify their total household income (e.g., below $10,000, $10,000 - $15,000, etc; Fung, Carstensen, & Lang (2001)).

The final four questions in the Demographic and Covariate questionnaire addressed marital status, amount of children, location of residence, and people with whom each participant lives. These questions were asked in previous research assessing individual perceptions of time and were used here in order to provide more in-depth information about the sample (Carstensen et al. 2000; Deforche et al., 2000; Lansford et al., 1998; Fredrickson & Carstensen, 1990).

The participants were asked to indicate their current marital status. Each participant was presented with a set of options to choose from (e.g., married/common law, living with a partner, etc.). Those who are separated or divorced may have a different social network than those who are married. They were also asked to indicate the amount of children in the family. Fredrickson and Carstensen (1990) reported that middle-aged people without children were similar to younger adults in that they chose novel social partners. The middle-aged people with children were similar to the older adult population and chose familiar social partners.

Participants were asked to identify whom they currently live with and were provided with a list to choose from (e.g., Alone, Spouse/Common Law, Partner, etc). The participants living situation could be important when choosing their social
networks, as was the case in the example of children in the household from Fredrickson and Carstensen (1990).

Since living partners have been identified, participants were asked to indicate where they live (e.g., My own home, In a family member’s home, etc.). This was done in order to verify the sample as home-dwelling community based participants. Deforche et al. (2000) had a sample ranging in age from 55 to 80 years of age, identify their living situation (e.g., whom they live with) and their living environment (e.g., where they live). They found that there was no difference between the “organized group” and “non-organized group” in regard to living situation, but there was a significant difference for living environment between the two groups.

Participants were asked two questions that address their self-rated mental and physical health. The participants were asked “How would you rate your own physical health in relation to the average person your age?” and “How would you rate your own mental health in relation to the average person your age?”. The responses to these questions were on a 10-point scale ranging from 1 (poor) to 10 (excellent). The phrasing of these two questions was adapted from Fung et al. (1999). Previous research has used these questions in order to explore the differences between participants and age groups. For example, Fredrickson and Carstensen (1990) found that participants rated their mental health as being better than the average person with no difference between age groups. However, in regard to perceived physical health the groups did differ on this index, $F(3, 74) = 4.71, p < .01$ (Fredrickson & Carstensen, 1990). These two questions on mental and physical health were used as covariates in the data analyses for this study.
2.1.2.2 Physical Activity Measures

Multiple measures for assessing physical activity levels were used because physical activity plays a vital role in this study. It has been suggested that there is no "gold standard" for the validity of physical activity measures and the choice of the measure is dependent on the research question (Dishman, Washburn, & Schoeller, 2001). The Godin Leisure-Time Exercise Questionnaire (LTEQ) is a commonly used measure, but has only been validated with older adults up to 65 years of age (Godin & Shephard, 1985). Since the older adult age cohort in this study is defined as 65 and over, the self-administered 7-Day Recall (PAR) was used along with the LTEQ because it has been validated with older adults up to 74 years of age (Blair et al., 1985). However, since the PAR is somewhat lengthy, the decision on whether or not to include it depended on the pilot study, which is described in section 2.1.3. A brief one-item physical activity rating question was also included and asked each individual to rate their general physical activity levels compared to others their age and sex (Sallis, Patterson, Buono, & Nader, 1988). Thus, because of the limitations associated with any single self-report measure multiple measures of physical activity were included in the study to try to strengthen the validity of physical activity assessment.

A composite physical activity score, known as Total Physical Activity (TPA), was developed for the purpose of data analysis. This score was developed through first transforming the scores for the four physical activity measures (LTEQ1, LTEQ2, PAR, and Physical Activity Rating) into T scores. Next, a reliability analysis was performed on the four T scores for the measures in order to see how they fit together. The results of the analysis yielded an acceptable alpha level ($\alpha = .89$). The four T scores from the physical activity measures for each participant were then added together and divided by
four in order to create the TPA score. Each physical activity measure is described in
more detail in the following sections.

2.1.2.2.1 Godin Leisure-Time Exercise Questionnaire (LTEQ)

The frequency and intensity of leisure-time exercise was assessed with the Godin
Leisure-Time Exercise Questionnaire (LTEQ) (Godin & Shephard, 1985; see Appendix
B). The LTEQ was developed to assess leisure time with the time frame of recall being a
typical 7-day period. It is a short self-administered questionnaire that is composed of
two questions. The participant was asked to identify how much time (in 15 minute
intervals) during a normal 7-day period they are involved in strenuous (heart beats
rapidly), moderate (not exhausting), and mild (minimal effort) exercise. For each of the
intensities, examples of activities that could be classified into each category were given
(e.g., for strenuous exercise, soccer is given as an example). The last part of the LTEQ
asks the participant to identify in a normal 7-day period during his/her leisure time, how
often he/she engage in any regular activity long enough to work up a sweat (heart beats
rapidly). Participants were able to choose from often, sometimes, or never/rarely.

Weekly frequencies of mild, moderate, and strenuous intensities are multiplied
by the estimated metabolic equivalent value (MET) for each intensity level (mild = 3
METS, moderate = 5 METS, strenuous = 9 METS). This allowed for a total weekly
activity score to be calculated by adding up the values that are obtained for each
intensity level. The second question was used to calculate the frequency of responses to
the question regarding the frequency of weekly leisure-time activity ("long enough to
work up a sweat") during leisure time (often, sometimes, never/rarely).

Godin and Shephard (1985) assessed the relationship between the first test and a
2-week retest for the activity categories, total score, and the sweat question using 53
healthy adults. The 2-week test-retest reliability for the LTEQ with adults (ages 18 to 65) yielded a score of \( r = .74 \) \((p < .05)\) for the first question and \( r = .80 \) \((p < .05)\) for the second question (Godin et al., 1985). Jacobs, Ainsworth, Hartman, and Leon (1993) assessed the relationship between the first test and a 1-month retest with a sample of 28 males and 50 females between the ages of 20 and 59 years old. The results yielded a score of \( r = .62 \) \((p < .05)\) for the first question and \( r = .69 \) \((p < .05)\) for the second question (Jacobs et al., 1993). Jacobs et al. (1993) also demonstrated evidence of convergent validity. The LTEQ was found to be related to accelerometer motion scores (first question \( r = .32 \) and the second question \( r = .29 \)), body fat scores (first question \( r = -.43 \) and the second question \( r = -.40 \)), and VO2 max scores (first question \( r = .56 \) and the second question \( r = .57 \)) (Jacobs et al., 1993).

2.1.2.2 Seven-Day Physical Activity Recall (PAR)

The original interviewer administered PAR was developed by Sallis et al. (1985; see Appendix C). It was developed to assess the level of individual participation in occupational and leisure activities over the previous 7-day period through open-ended questions. The self-administered PAR is a modified version of the original interviewer administered version (Miller, Freedson, & Kline, 1994). The self-administered PAR consists of 9 items and assesses the level of participation in occupational, leisure, and home activities over a time period of the previous 7 days. Energy cost was calculated by taking the hours spent for each activity category and multiplying by the estimated amount of energy expended (sleep = 1 MET, light physical activity = 1.5 METS, moderate physical activity = 4 METS, hard physical activity = 6 METS, very hard physical activity = 10 METS). The total energy cost score was calculated by summing
all the values that are obtained from calculating the energy cost for each activity category.

Sallis et al. (1985) performed Pearson correlations between the first test and a 2-week retest for the interviewer administered PAR. With participants who had a mean age of 41 ± 16 (men) and 39 ± 16 (women), the 2-week test-retest reliability for moderate activity was reported at .75, and for vigorous physical activity (hard and very hard) was .83. Taylor et al. (1984) found a convergent validity between 7-Day Recall score and a self-report log for the weekend and weekday with 30 men between the ages of 34 and 69. Moderate physical activity was reported at .70 for the weekend and .75 for the weekday. Hard/Very hard physical activity was reported at .66 for the weekend and .39 for the weekday. Miller et al. (1994) showed evidence of convergent validity by correlating scores on the self administered PAR with a Caltrac accelerometer ($r = .79$) for a sample of men and women with the mean age of 28 ± 5.6 years.

2.1.2.2.3 Physical Activity Rating

The final physical activity measure was a single-item Physical Activity Rating (see Appendix A). This question asked each participant to rate their average level of activity 1 (much less active) to 5 (much more active) compared to others of the same age and sex (Sallis et al., 1988). With an adult sample of males (mean age of 38.4 ± 5.8) and females (mean age of 36.6 ± 6.5), Sallis et al. (1988) found convergent validity between the activity rating and body mass index ($r = -.25; p < .01$ for males: $r = -.13; p < .05$ for females), heart rate ($r = -.27; p < .01$ for males: $r = -.16; p < .05$ for females), and predicted VO$_2$max ($r = .21; p < .05$ for males: $r = .18; p < .01$ for females).
2.1.2.3 Time Perspective Questionnaires

Perceptions of time were assessed in two ways. The Future Time Perspective Scale (FTP) (Carstensen & Lang, 1995) was the measure used previously in research with the SEST, thus it was used as the primary measure. The Time Perspective Questionnaire (TPQ) (Fong & Hall, 2003) was also used as a secondary measure because it provided an alternative conceptualization.

2.1.2.3.1 Future Time Perspective Scale (FTP)

The FTP scale (Carstensen & Lang, 1995) has been used in previous studies (Lang & Carstensen, 2002; Fung et al., 2001) in order to determine the degree of individual future time perspective (see Appendix D). Both Carstensen et al. (2002) and Fung et al. (1999) used the FTP to examine participants across the life span. The scale consisted of 10 items, in which participants were asked to indicate their level of agreement or disagreement to each question using a 5-point likert scale ranging from 1 (definitely not) to 5 (definitely) (Fung et al., 2001). A lower score represents a perception of time that is more limited (Fung et al., 2001). Some of the statements that the participants responded to included: “Many opportunities await me in the future”, “I expect that I will set many new goals in the future”, and “My future is filled with possibilities”.

The internal consistency of the FTP has been shown to produce an alpha level of .92 (Lang & Carstensen, 2002). In regards to the validity of the FTP, Lang and Carstensen (2002) used a sample of 480 adults ranging from 20 to 90 years of age and found that the FTP significantly correlated with four out of five partner preference categories including the Friend/Acquaintance (r = .23; p < .01), the Knowledgeable Partner (r = .10; p < .05), the Formal Partner (r = -.12; p < .01), and the Family/Relative
(r = -.19; \( p < .01 \)). Lang and Carstensen (2002) also showed construct validity between age and three out of five partner preference categories including Friend/Acquaintance (\( r = -.18; p < .01 \)), the Formal Partner (\( r = .17; p < .01 \)), and the Family/Relative (\( r = .15; p < .01 \)). It should be noted, that for the purposes of data analysis, the FTP was transformed into T scores.

### 2.1.2.3.2 Time Perspective Questionnaire (TPQ)

The TPQ (Fong & Hall, 2003) consisted of 13 items that asked the participants to describe themselves in two ways (see Appendix E). First, the participants described themselves in regards to statements about their judgment of short-term versus long-term outcomes (e.g., "I spend a lot more time thinking about today than thinking about the future"). Second, participants reported the influence of long-term outcomes on the decision-making processes (e.g., "I have a defined set of long-term goals that I think about when I make decisions in my life"). For each of the 13 statements, participants were asked to indicate their level of agreement or disagreement by using a 7-point Likert scale ranging from 1 (disagree very strongly) to 7 (agree very strongly).

A total of 8 out of the 13 items are reverse scored so that higher totals on the TPQ would reflect higher levels of long-term time perspective. The TPQ has a high internal consistency, \( \alpha > .80 \), and good test-retest reliability over a 4 week and 10 week period (\( r > .80 \); Hall & Fong, 1997). In regard to the validity of the TPQ, Fong and Hall (1997) found that university students identified as having a long-term time perspective were less likely to engage in health damaging behaviours and more likely to engage in health protective behaviours when compared to university students having a short-term time perspective. The predictive power (\( r = .21 \)) of the TPQ was considered reasonable.
It should be noted, that for the purposes of data analysis, the TPQ was transformed into T scores.

**2.1.2.4 Partner Preference Measures**

Partner preference was examined in two different ways. First, participants were asked about their preference in regard to the exercise environment (alone, with friends, with others). Second, participants completed a card-sort task to identify whom they preferred to be physically active with. Details are described in the following two sections.

**2.1.2.4.1 Preferred Context of Exercise**

Participants were asked a question in regard to what context they would like to be active in (see Appendix F). The preferred context question helped to distinguish between the choices to exercise alone or with others and the most popular context if others were involved. Deforche et al. (2000) investigated differences in psychosocial determinants of physical activity in older adults that participated in “organized” versus “non-organized” activities. Participants were asked which context they would like to be physically active in (alone, with friends, with others). The results showed that the older adults in the “non-organized” group preferred to be physically active with friends, while the older adults in the “organized” group preferred to be physically active with others in the same class $F(1,122) = 36.7, p < .001$.

**2.1.2.4.2 Partner Preference Card-Sort Task**

In order to determine partner preference in a physical activity setting, the participants were presented with a card-sorting task (Carstensen & Fredrickson, 1998; Fredrickson & Carstensen, 1990; Lang & Carstensen, 2002). The objective of the partner preference card-sorting task was to determine the preference for emotionally or
knowledge fulfilling partners in a physical activity setting. Therefore, the card-sorting
task from Lang and Carstensen (2002) was modified to account for the physical activity
setting. For example, the formal partner “An attorney” was changed to “A personal
trainer”. Both partners provide a service, but the card was changed in order to have a
service providing partner that was appropriate for the setting in this study. Participants
were provided with verbal instructions on how to complete the card-sort task. Then
participants had 18 cards (in a random order) handed to them. Their task was to arrange
the cards such that similar social partners are sorted into the same groups and dissimilar
social partners are sorted into different groups. The partner-preference cards included
partners represented by five dimensions: friend/acquaintance (5 items), knowledgeable
partner (4 items), controversial partner (2 items), formal partner/service (4 items), and
family/relative (3 items). The partners that were identified on the partner-preference
cards can be found in Appendix H.

The scoring of the card-sorting task was adopted from Lang and Carstensen
(2002). The initial number of stacks ranged from 2 to 9, but the next step was to reorder
the number of stacks that the participant provided into three piles. The three piles
included: (a) the pile with the least prioritized partners, (b) the pile with the most
prioritized partners, and (c) all the remaining piles in the middle collapsed together. The
next step was to assign a rank order score to each card depending on which pile it falls
in. This resulted in a score ranging from 1 (low priority) to 3 (high priority). For the
purposes of data analysis, the scores for each of the partner cards were transformed into
\( Z \) scores.

As evidence for factor validity of the scale dimensions, Lang and Carstensen
(2002) performed a varimax-rotated factor solution for the card-sort task dealing with
social partner choices. Five factors were developed and labelled as (a) Preference for Friend or Acquaintance, (b) Preference for Knowledgeable Partner, (c) Preference for Controversial Partner, (d) Preference for Formal Partner, and (e) Preference for Family or Relative. All five factors were shown to have the highest loadings (above .40) on the theoretically specified factor. As previously stated, the dimensions have been found to relate to the FTP.

2.1.2.5 Actual Exercise Partner Card-Sort Task

The partner-preference card-sort task was repeated with the objective of identifying the partners that participants were currently being active with. The purpose of this was to determine whether or not the participant groups were exercising or being physically active with their preferred partner choices. However, there was no measure in the literature that addresses this question directly; therefore, the partner preference card-sorting task was modified to serve the purpose. The participants were given 18 cards (in a random order) with the choices on the cards representing five dimensions that have been mentioned. The partners that were presented on the cards can be found in Appendix I. The task and scoring of the Actual Exercise Partner Card-Sort Task were the same as described previously for the Partner Preference Card-Sort Task.

2.1.3 Procedure

The first step of the data collection was to conduct a pilot test to address any potential questions or concerns regarding the questionnaires and card-sorting tasks. For example, some of the things that were assessed included the amount of time it takes for each participant to complete the questionnaire package and the procedure involved with the card-sorting tasks. The goal was to have people be able to complete the questionnaire package within 20 to 30 minutes and the card-sort task within 15 to 20 minutes.
Six participants were recruited for the pilot study consisting of a convenience sample of people that the researcher was in contact with on a regular basis. However, the participants were purposefully selected from each of the age cohorts (Young adults = 18 to 40 years; Middle adults = 41 to 64 years; Older adults = 65 and above); there was one male and one female from each of the age cohorts.

The measures that were used in the pilot study were the same as the primary study. The participants were asked to fill out the Demographic and Covariate questionnaire followed by the rest of the questionnaire package that included the remaining measures (Activity Rating, LTEQ, PAR, FTP, TPQ, and Preferred context of exercise; in this order). For the physical activity measures, the participants filled out the briefest to the longest so that they would not be discouraged by answering the longest first. It is important to note that the consideration of time to complete the questionnaire and the effect it has on participant burden was monitored in the pilot study in order to determine whether or not the PAR would be used (because it was the longest measure). For the time perspective measures, since the FTP was the primary measure it was included first so that it was not influenced by responses on the TPQ. The perception of time measures were followed by having the participants complete three card-sorting tasks. Before the two main card-sorting tasks were completed, I provided an example card-sorting task in order for the participants to gain an understanding of how the process works. Once the practice, partner preference, and actual partner card-sorting tasks had been completed, the participant was thanked for his/her time and was free to go.

Based on the pilot study, minimal changes were made in order to have the methods and measures run smoothly for the primary study. Changes included
grammatical modifications in the questionnaire package (e.g., giving the participant the option to circle “male” or “female” instead of filling in the blank) and providing the participant with enough writing space for the questions within the questionnaire package.

Following the pilot study, newsletters were distributed around a selected area of the city of Saskatoon. The selected area was chosen based on two criteria: (1) participants having easy access to the University for testing, and (2) the selected area being an established neighbourhood in order to have a wide age range in residents. Approximately 800 newsletters were distributed door to door, followed by door to door follow ups. Seven people responded to the newsletter. The rest of the sample size was obtained with the door to door method, with a success rate of approximately 1 out of 7 doors answered agreeing to participate in the study. When potential participants were approached, they were told that the objective of the study was to examine the relationship between individual’s perceptions of time and partner preference. To lend help with recruiting participants, they were told they would have the opportunity to be taken on a full tour of the new Kinesiology building, provided with game tickets for an upcoming Huskie Athletic event, and have their name entered into a draw for $200. Once the participants expressed interest to participate in the study, the next step was to go over the consent form and explain the participant rights to each individual (confidentiality, storage of data, voluntary participation, etc.; see Appendix M). The participants had the potential risks and benefits involved with participating in the study explained to them. Once the consent form was fully explained and signed, one-on-one sessions took place at the University of Saskatchewan or in their home (it was their choice).
Each participant was presented with a questionnaire package to fill out. Similar to the pilot study, the questionnaire package began with the Demographic and Covariate section. This was followed by the remaining sections of the questionnaire package in order (Activity Rating, LTEQ, PAR, FTP, TPQ, and Preferred context of exercise). The researcher was present in the room in order to guide the questionnaire process and to address any questions or concerns with any aspect of the questionnaire package. Once the questionnaire package was completed, the participants completed the card-sorting tasks.

The first card-sorting task was a Practice Card-Sort Task. Previous studies have provided the participants with the opportunity to have a sample card-sort task and a practice trial (Fredrickson & Carstensen, 1990; Lang & Carstensen, 2002). Fredrickson and Carstensen (1990) gave a 5-item card-sort task example to a group of participants ranging in age from 14 to 92 years of age using food items, followed by an 18-item practice trial using physical symptoms. Lang and Carstensen (2002) supplied the participants, ranging from 20 to 90 years of age, with an 18-item food preference card-sort task to have a practice trial with. The main objective of these practice trials was to provide the participant with the opportunity to see how the card-sorting tasks are completed and give them a chance to ask any questions they may have before beginning subsequent card-sort tasks. The procedure that Lang and Carstensen (2002) used was utilized for this study (see Appendix H).

Participants were provided with verbal instructions on how to complete the practice card-sort task. The instructions were as follows:

"On these cards you will find 18 different types of food that you may encounter in everyday life. I would like you to read each of the food items carefully before
we begin. Once you have looked at all the cards, I would like you to sort the
cards into several piles with respect to which foods you would most like to have
the opportunity to eat. Begin with the most desired foods in the far left hand pile
and place the most undesired foods in the far right hand pile. You must build as
many piles as you think necessary.”

Participants had 18 cards (in a random order) handed to them. Their task was to arrange
the cards such that similar food choices were sorted into the same groups and foods that
were not similar into different groups. Once the participant had completed the practice
card-sort task and fully understood how it works, they moved on to the Partner
Preference and Actual Partner card-sort tasks.

The first non-practice card-sort task was the Partner Preference Card-Sort Task.
This study used the instructions that were utilized by Lang and Carstensen (2002).
However, the instructions were modified to account for the participants being able to
respond to who they would prefer to be physically active with in a physical activity
setting. The instructions read as follows:

“On these cards you will find descriptions of different persons with whom one
might have contact with for the purpose of physical activity or in a physical
activity setting. Please read each of these cards carefully and imagine someone
described on the card. Please sort the cards into several piles with respect to how
much you would like to spend your physical activity time or exercise time (i.e.
going for a walk, playing a round of golf, playing tennis, etc.) with that person.
Please begin on the left side with the pile of those persons with whom you would
prefer most to spend time being physically active. Please order those persons
with whom it is less or not at all preferable for you to spend time being
physically active on the right side of that first pile. You must build as many piles as you think necessary.”

Participants had 18 cards (in a random order) handed to them. Their task was to arrange the cards such that similar social partners were sorted into the same groups and social partners that were not similar were sorted into different groups. Once this was completed, the participants were then given an “Alone” card and instructions to place this card in one of the piles or in a separate pile according to their preference for exercising alone. The instructions were as follows:

“Let’s say you were given the option to exercise alone instead of with a partner, please place the “Alone” card in the appropriate pile or in a separate pile according to your preference.”

The second card-sort task was the Actual Physical Activity Partner Card-Sort Task. The instructions for this task were similar to those provided for the Partner Preference Card-Sort Task. The participants were provided with verbal instructions and they were read as follows:

“On these cards you will find descriptions of different persons with whom one might have contact with for the purpose of physical activity or in a physical activity setting. Please read each of these cards carefully and imagine someone described on the card. Please sort the cards into several piles with respect to whom you actually spend your physical activity time or exercise time (i.e., going for a walk, playing a round of golf, playing tennis, etc.) with currently. Again, please begin on the left side with the pile of those persons with whom you actually spend time being physically active with currently. Please order those persons with whom the time spent being physically active with currently is less
or not at all on the right side of that first pile. You must build as many piles as you think necessary.”

Participants had 18 cards (in a random order) handed to them. Their task was to arrange the cards such that similar social partners were sorted into the same groups and social partners the were not similar were sorted into different groups. Once this was completed, the participants were then given an “Alone” card and instructions to place this card in one of the piles or in a separate pile according to their habits for exercising alone. The instructions were as follows:

“Let’s say you exercise alone instead of with a partner, please place the “Alone” card in the appropriate pile or in a separate pile according to your habits.”

Finally, once all the card-sort tasks were completed the participant was thanked for his/her participation and was free to go as long as all the questions of the participant have been answered. It should be noted that the University of Saskatchewan Behavioural Research Ethics Board gave ethical approval to the study on December 24, 2003 (see Appendix L).

2.1.4 Data Analysis

Once the data were collected it was cleaned, examined for outliers, distribution properties, and missing data (Tabachnick & Fidell, 2001). This was accomplished by running a descriptive analysis in order to view the range of all the variables for legitimate values. Means, standard deviations, skewness, and kurtosis were also examined.

Pearson’s product moment correlation coefficients were used to examine the extent to which the direction and size of deviations from the mean in one variable were related to the same in another variable (Vincent, 1999). Correlation ranges between
+1.00 and -1.00 (Vincent, 1999). A perfect positive correlation (+1.00) would exist if every participant varied an equal distance from the mean in the same direction on two different variables (Vincent, 1999). Likewise, if every participant who were above and below the mean on one variable (i.e. X variable) and were also an equal distance in the opposite direction from the mean on another variable (i.e. Y variable), the result would be a perfect negative correlation (-1.00) (Vincent, 1999). If the correlations are not perfect they would fall in between +1.00 and -1.00 (Vincent, 1999). A coefficient of 0.00 would mean that there is no relationship between the two variables (Vincent, 1999). For the sample size of 95 participants, a coefficient greater than .205 is needed in both directions for the relationships of the variables to be significant at an alpha level of .05. It should be noted that two-tailed significance was used in this study because although hypotheses in particular direction were forwarded, there is some inconsistency in the literature between the tenets of the theory and the empirical findings; thus, findings in the opposite direction to what has been proposed can not be ruled out.

2.1.4.1 Examining the Preliminary Hypotheses

The relationships among age, perceptions of time, and physical activity were examined with Pearson's moment product correlation.

2.1.4.2 Examining the Primary Hypotheses

It should be noted that to further examine the relationship between perceptions of time and partner preference categories a simple analysis of variance (ANOVA) was to be conducted. The purpose was to examine the group differences between the age cohorts (young, middle, and older adults) and perceptions of time (expanded, indefinite, or limited) and compare the results to Lang and Carstensen (2002). However, due to the moderate to unacceptable internal consistencies of the partner preference categories (see
Table 3.3), these analyses were not performed. Perhaps this could be attributed to the partner cards being modified or to the unique setting that physical activity provides due to the health benefits. Alternatively, the relationship between individual perceptions of time and partner preferences in the physical activity setting was examined by looking at Pearson’s product moment correlations between perceptions of time and the individual partner cards.

One last step was needed to examine the relationship, which was to examine it accounting for covariates. In order to account for the covariates, partial correlations were calculated for the relationship and each covariate (age, gender, perceived physical and mental health, socioeconomic status, and physical activity levels) in order to examine how each covariate influenced the relationship.

2.1.4.3 Examining the Secondary (Exploratory) Hypotheses

Finally, the secondary (exploratory) hypotheses were examined with Pearson’s product moment correlations. All of the expected results can be found in the Hypotheses section. The relationships that were examined include preferred physical activity partners and actual physical activity partners, perceptions of time and actual exercise partners, and the two measurements of perceptions of time (FTP and TPQ).
CHAPTER 3

3.1 RESULTS

3.1.1 Descriptive Statistics and Scale Reliabilities

Descriptive statistics for the physical activity measures (Total Physical Activity, LTEQ1, LTEQ2, PAR, and Physical Activity Rating) and the perception of time measures (FTP and TPQ) are presented in Table 3.1. Descriptive statistics for the covariate and demographic information are presented in Table 3.2. The FTP, TPQ, and Total Physical Activity (TPA) revealed an acceptable internal consistency (see Table 3.3).

Some of the demographic information was gathered to provide in-depth information about the sample. Years of education ranged from 1 to 10 years and included educational backgrounds such as a high school diploma and the completion of a PhD. There were 32 participants who reported professional qualifications, which included such things as a teaching certificate, CPR qualifications, and a heavy machine operating licence. The years it took to obtain these qualifications ranged from 1 to 7 years. There were 33 participants who reported being retired and the years in retirement ranged from 1 to 35 years. With regard to marriage, 10 participants reported being single, 55 reported being married/common law, 9 reported living with a partner, 3 reported they were separated, 10 reported being divorced, and 8 reported being widowed. The amount of children ranged from 0 to 6 (27 reported no children, 14
reported 1 child, 29 reported 2 children, 17 reported 3 children, 5 reported 4 children, 2 reported 5 children, and 1 reported 6 children). With regard to where the participants were living at the time, 75 reported living in their own home, 10 reported living in an apartment, 6 reported living in a family member’s home, and 4 reported living in another location from what was given to choose from. Finally, with regard to whom the participants were living with, 14 reported living alone, 54 with a spouse/common law, 12 with a partner, 30 with their children, 2 with another family member, 12 with a friend, and 2 participants reported living with their parents. This provides more information about the sample.

3.1.2 Tests of Hypotheses

3.1.2.1 Preliminary Hypothesis

Preliminary hypotheses were tested using Pearson’s product moment correlations to indicate the extent to which the variables were related. The relationships were first examined using the FTP as the perception of time measure and then were repeated using the TPQ.

All three of the hypotheses were supported. First, age was significantly negatively related to the FTP \((r = -.87, p < .05)\) and the TPQ \((r = -.35, p < .05;\) see Table 3.4), suggesting that older age is related to a limited perception of time and a short-term time perspective. Younger adults were more likely to have an open-ended perception of time and a long-term time perspective.

Second, as hypothesized, age was significantly negatively related to all physical activity measures (see Table 3.4). However, as a result of concerns over the distribution of the LTEQ1 and PAR, these variables were transformed using square root and log transformations and the correlations re-examined (Tabachnick & Fidell, 2001).
Table 3.1. Descriptive Statistics for Total Physical Activity, LTEQ1, LTEQ2, PAR, Physical Activity Rating, FTP, and TPQ (N = 95)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation (SD)</th>
<th>Skewness Stat</th>
<th>Skewness Std.Err</th>
<th>Kurtosis Stat</th>
<th>Kurtosis Std.Err</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Physical Activity</td>
<td>50.00</td>
<td>8.74</td>
<td>.38 .25</td>
<td>-.41 .50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LTEQ1</td>
<td>134.70</td>
<td>88.62</td>
<td>.74 .25</td>
<td>.04 .50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LTEQ2</td>
<td>2.05</td>
<td>.70</td>
<td>-.07 .25</td>
<td>-.96 .50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAR</td>
<td>112.93</td>
<td>44.32</td>
<td>1.20 .25</td>
<td>1.36 .50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Activity Rating</td>
<td>3.27</td>
<td>.94</td>
<td>.05 .25</td>
<td>-.30 .50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FTP</td>
<td>50.00</td>
<td>10.00</td>
<td>-.20 .25</td>
<td>-.98 .50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TPQ</td>
<td>50.00</td>
<td>10.00</td>
<td>-.10 .25</td>
<td>-.77 .50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:

LTEQ1 = Leisure Time Exercise Questionnaire question #1 (scale range = 0 – 406)
LTEQ2 = Leisure Time Exercise Questionnaire question #2 (scale range = 1 – 3)
PAR = Self-Administered Seven-Day Physical Activity Recall (scale range = 49 – 251)
FTP = Future Time Perspective Scale (scale range = 30.24 – 66.00)
TPQ = Time Perspective Questionnaire (scale range = 29.22 – 69.33)
Stat = Statistic
Std.Err = Standard Error
Table 3.2. Descriptive Statistics for the Covariates and Demographics (N = 95)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness Stat</th>
<th>Std.Err Stat</th>
<th>Kurtosis Stat</th>
<th>Std.Err Stat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional Qualification</td>
<td>1.83</td>
<td>1.44</td>
<td>2.26 0.41</td>
<td>5.17</td>
<td>.81</td>
<td></td>
</tr>
<tr>
<td>Years of Education</td>
<td>13.91</td>
<td>8.81</td>
<td>.44 0.41</td>
<td>-0.56</td>
<td>.80</td>
<td></td>
</tr>
<tr>
<td>Amount of Children</td>
<td>1.67</td>
<td>1.39</td>
<td>.51 0.25</td>
<td>-0.08</td>
<td>.49</td>
<td></td>
</tr>
<tr>
<td>Covariates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>51.54</td>
<td>20.19</td>
<td>.12 0.25</td>
<td>-1.11</td>
<td>.49</td>
<td></td>
</tr>
<tr>
<td>Years of Education</td>
<td>4.21</td>
<td>1.64</td>
<td>1.04 0.25</td>
<td>2.90</td>
<td>.49</td>
<td></td>
</tr>
<tr>
<td>Perceived Physical Health</td>
<td>7.48</td>
<td>1.50</td>
<td>.05 0.25</td>
<td>-.42</td>
<td>.49</td>
<td></td>
</tr>
<tr>
<td>Perceived Mental Health</td>
<td>8.72</td>
<td>1.28</td>
<td>-1.51 0.25</td>
<td>3.64</td>
<td>.49</td>
<td></td>
</tr>
<tr>
<td>Age (Residual)</td>
<td>0.00</td>
<td>0.99</td>
<td>.26 0.25</td>
<td>.27</td>
<td>.49</td>
<td></td>
</tr>
</tbody>
</table>

Note:

SD = Standard Deviation
Stat = Statistic
Std.Err = Standard Error

*For “Years in Retirement”, only those who were retired responded to this question (n = 29).
Table 3.3. Scale Reliability Analysis for the FTP, TPQ, Total Physical Activity, and the Five Partner Preference Categories

<table>
<thead>
<tr>
<th>Variable</th>
<th>Alpha (α)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scales</strong></td>
<td></td>
</tr>
<tr>
<td>FTP</td>
<td>.96</td>
</tr>
<tr>
<td>TPQ</td>
<td>.88</td>
</tr>
<tr>
<td>Total Physical Activity</td>
<td>.89</td>
</tr>
<tr>
<td><strong>Partner Preference Categories</strong></td>
<td></td>
</tr>
<tr>
<td>Friend/Acquaintance</td>
<td>.57</td>
</tr>
<tr>
<td>Knowledgeable Partners</td>
<td>.32</td>
</tr>
<tr>
<td>Controversial Partners</td>
<td>.39</td>
</tr>
<tr>
<td>Formal Partners</td>
<td>.34</td>
</tr>
<tr>
<td>Family/Relatives</td>
<td>.68</td>
</tr>
</tbody>
</table>
Table 3.4. Pearson Correlations Among Age, Physical Activity Levels, and Perceptions of Time

<table>
<thead>
<tr>
<th>Variable</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
<th>8.</th>
<th>9.</th>
<th>10.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. AGE</td>
<td>----</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. LTEQ1</td>
<td>-.44*</td>
<td>----</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. LTEQ1SQ</td>
<td>-.42*</td>
<td>.98*</td>
<td>----</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. LTEQ2</td>
<td>-.44*</td>
<td>.75*</td>
<td>.74*</td>
<td>----</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. PAR</td>
<td>-.42*</td>
<td>.71*</td>
<td>.70*</td>
<td>.69*</td>
<td>----</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. PARLOG</td>
<td>-.39*</td>
<td>.75*</td>
<td>.77*</td>
<td>.72*</td>
<td>.97*</td>
<td>----</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Physical Activity Rating</td>
<td>-.33*</td>
<td>.64*</td>
<td>.62*</td>
<td>.72*</td>
<td>.60*</td>
<td>.62*</td>
<td>----</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. TPA</td>
<td>-.46*</td>
<td>.89*</td>
<td>.87*</td>
<td>.90*</td>
<td>.86*</td>
<td>.88*</td>
<td>.85*</td>
<td>----</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. FTP</td>
<td>-.87*</td>
<td>.53*</td>
<td>.51*</td>
<td>.59*</td>
<td>.56*</td>
<td>.54*</td>
<td>.54*</td>
<td>.64*</td>
<td>----</td>
<td></td>
</tr>
<tr>
<td>10. TPQ</td>
<td>-.35*</td>
<td>.38*</td>
<td>.39*</td>
<td>.49*</td>
<td>.20*</td>
<td>.27*</td>
<td>.42*</td>
<td>.43*</td>
<td>.51*</td>
<td>----</td>
</tr>
</tbody>
</table>

Note:

LTEQ1 = Leisure Time Exercise Questionnaire question #1
LTEQ1SQ = The square root value for Leisure Time Exercise Questionnaire question #1
LTEQ2 = Leisure Time Exercise Questionnaire question #2
PAR = 7-Day Physical Activity Recall
PARLOG = The log score for the 7-Day Physical Activity Recall
TPA = The T score for the combined physical activity rating for all physical activity measures
FTP = Future Time Perspective Scale
TPQ = Time Perspective Questionnaire

* p < .05 (two-tailed significance)
The relationships were similar for the transformed and non-transformed scales. Thus, all subsequent analysis was conducted with non-transformed variables. It should be noted that all of the physical activity measures were examined in order to observe the differences in the results; however, the composite physical activity score was the primary physical activity score that was used for data analysis and the discussion that follows.

Third, the FTP and TPQ were significantly positively related to all physical activity measures (see Table 3.4) as hypothesized, such that a limited perception of time and short-term time perspective was related to lower physical activity levels.

### 3.1.2.2 Primary Hypothesis

It was expected that individual perceptions of time left in life would be related to partner preference in physical activity. However, the partner preference categories revealed moderate to unacceptable internal consistencies (see Table 3.3). Thus, the individual partner cards were used to examine the relationship. The means and standard deviations for each of the 19 cards and the frequency of each card for the three possible choice piles (Least Preferred Pile, Middle Collapsed Pile, Most Preferred Pile) are reported in Table 3.5.

The correlations between the individual partner cards and time perspective were first examined with the FTP and then repeated using the TPQ. A significant positive relationship between the FTP and the individual cards should be interpreted as an expansive perception of time being related to an increased partner preference. Thus, a significant negative relationship should be interpreted as an expansive perception of time being related to a decreased partner preference. The hypothesis stated that a positive
Table 3.5. Means and Standard Deviations for Each of the Individual Partner Cards for the Partner Preference Card-Sort Task and Frequencies of Each Individual Card in the Three Possible Piles (N = 95)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Least Preferred Pile</th>
<th>Middle Collapsed Pile</th>
<th>Most Preferred Pile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card 1 - Family/Relative (“A close member of the family”)</td>
<td>2.77</td>
<td>0.42</td>
<td>0</td>
<td>22</td>
<td>73</td>
</tr>
<tr>
<td>Card 2 - Family/Relative (“A younger relative”)</td>
<td>2.31</td>
<td>0.46</td>
<td>0</td>
<td>66</td>
<td>29</td>
</tr>
<tr>
<td>Card 3 - Family/Relative (“A relative of the same age”)</td>
<td>2.46</td>
<td>0.50</td>
<td>0</td>
<td>51</td>
<td>44</td>
</tr>
<tr>
<td>Card 4 - Friend/Acquaintance (“A close friend”)</td>
<td>2.95</td>
<td>0.22</td>
<td>0</td>
<td>5</td>
<td>90</td>
</tr>
<tr>
<td>Card 5 - Friend/Acquaintance (“A sympathetic acquaintance”)</td>
<td>2.12</td>
<td>0.38</td>
<td>2</td>
<td>80</td>
<td>13</td>
</tr>
<tr>
<td>Card 6 - Friend/Acquaintance (“A recent acquaintance I met while being active with whom I have much in common”)</td>
<td>2.33</td>
<td>0.47</td>
<td>0</td>
<td>64</td>
<td>31</td>
</tr>
<tr>
<td>Card 7 - Friend/Acquaintance (“A friend who I haven’t seen for a long time”)</td>
<td>2.66</td>
<td>0.48</td>
<td>0</td>
<td>32</td>
<td>63</td>
</tr>
<tr>
<td>Card 8 - Friend/Acquaintance (“A casual acquaintance”)</td>
<td>2.06</td>
<td>0.32</td>
<td>2</td>
<td>85</td>
<td>8</td>
</tr>
<tr>
<td>Card 9 - Formal Partner (“A medical doctor”)</td>
<td>1.61</td>
<td>0.51</td>
<td>38</td>
<td>56</td>
<td>1</td>
</tr>
<tr>
<td>Card 10 - Formal Partner (“A personal trainer”)</td>
<td>2.30</td>
<td>0.62</td>
<td>8</td>
<td>50</td>
<td>37</td>
</tr>
</tbody>
</table>
Table 3.5. (Continued) Means and Standard Deviations for Each of the Individual Partner Cards for the Partner Preference Card-Sort Task & Frequencies of Each Individual Card in the Three Possible Piles (N = 95)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Least Preferred Pile</th>
<th>Middle Collapsed Pile</th>
<th>Most Preferred Pile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card 11 - Formal Partner</td>
<td>1.04</td>
<td>0.20</td>
<td>91</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Card 12 - Formal Partner</td>
<td>1.81</td>
<td>0.42</td>
<td>19</td>
<td>75</td>
<td>1</td>
</tr>
<tr>
<td>Card 13 - Knowledgeable Partner</td>
<td>1.98</td>
<td>0.58</td>
<td>17</td>
<td>63</td>
<td>15</td>
</tr>
<tr>
<td>Card 14 - Knowledgeable Partner</td>
<td>2.23</td>
<td>0.64</td>
<td>11</td>
<td>51</td>
<td>33</td>
</tr>
<tr>
<td>Card 15 - Knowledgeable Partner</td>
<td>1.99</td>
<td>0.37</td>
<td>7</td>
<td>82</td>
<td>6</td>
</tr>
<tr>
<td>Card 16 - Knowledgeable Partner</td>
<td>1.62</td>
<td>0.51</td>
<td>37</td>
<td>57</td>
<td>1</td>
</tr>
<tr>
<td>Card 17 - Controversial Partner</td>
<td>1.38</td>
<td>0.49</td>
<td>59</td>
<td>36</td>
<td>0</td>
</tr>
<tr>
<td>Card 18 - Controversial Partner</td>
<td>1.14</td>
<td>0.35</td>
<td>82</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>Card 19</td>
<td>2.27</td>
<td>0.53</td>
<td>4</td>
<td>61</td>
<td>30</td>
</tr>
</tbody>
</table>
relationship was expected between the FTP and the cards in the Friend/Acquaintance, Knowledgeable, Controversial, and Formal partner categories. On the other hand, a negative relationship was expected between the FTP and the Family/Relative partner category.

The hypotheses were supported for 8 out of the 19 cards, which revealed a significant positive relationship. The cards came from the Friend/Acquaintance, Knowledgeable, and Formal partner categories (see Table 3.6). However, 2 out of the 19 cards also had a significant relationship, but the relationship was opposite from the hypotheses. The two cards that were expected to yield positive relationships, but yielded negative relationships, came from the Formal ("A medical doctor") and Knowledgeable partner categories ("A clergy person (i.e. priest, rabbi, etc.)"). The breakdown of the categories that the significant cards came from is described below.

Of the 3 cards in the Family/Relative category, none were significant. There were 3 out of the 5 cards in the Friend/Acquaintance category that revealed a significant positive relationship such that these cards were related to increased preference with an expansive perception of time or decreased preference with a limited perception of time. The Formal Partner category had 3 out of the 4 cards show significance with 2 cards yielding a significant positive relationship and 1 card ("A medical doctor") revealed a significant negative relationship such that this card was related to increased preference with a limited perception of time. All 4 cards in the Knowledgeable Partner category were significant with 3 of the cards revealing a significant positive relationship and 1 card ("A clergy person (i.e., priest, rabbi, etc.)") revealing a significant negative relationship. Finally, the 2 cards in the Controversial Partner category were not significant. It should be noted that the "Alone" card, which was not included in the
Table 3.6. Pearson Correlations Between Perception of Time (FTP) and Z Scores for the Individual Partner Preference Cards When Accounting for the Covariates

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected Correlation</th>
<th>Correlation With FTP</th>
<th>COVARIATES</th>
<th>Age</th>
<th>Gender</th>
<th>Years of Education</th>
<th>Income</th>
<th>Perceived Physical Health</th>
<th>Perceived Mental Health</th>
<th>Age (Res)</th>
<th>Total Physical Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card 1 - Family/Relative (&quot;A close member of the family&quot;)</td>
<td>-</td>
<td>-.03</td>
<td></td>
<td>.22*</td>
<td>.02</td>
<td>-.03</td>
<td>.06</td>
<td>.00</td>
<td>-.03</td>
<td>-.03</td>
<td>.04</td>
</tr>
<tr>
<td>Card 2 - Family/Relative (&quot;A younger relative&quot;)</td>
<td>-</td>
<td>-.04</td>
<td></td>
<td>.07</td>
<td>-.03</td>
<td>-.03</td>
<td>.04</td>
<td>-.06</td>
<td>-.08</td>
<td>-.04</td>
<td>-.03</td>
</tr>
<tr>
<td>Card 3 - Family/Relative (&quot;A relative of the same age&quot;)</td>
<td>-</td>
<td>-.07</td>
<td></td>
<td>.12</td>
<td>-.06</td>
<td>-.06</td>
<td>-.02</td>
<td>-.12</td>
<td>-.12</td>
<td>-.07</td>
<td>-.15</td>
</tr>
<tr>
<td>Card 4 - Friend/Acquaintance (&quot;A close friend&quot;)</td>
<td>+</td>
<td>-.05</td>
<td></td>
<td>-.00</td>
<td>-.05</td>
<td>-.04</td>
<td>.02</td>
<td>-.05</td>
<td>-.08</td>
<td>-.05</td>
<td>-.05</td>
</tr>
</tbody>
</table>

* p < .05 (two-tailed significance)
Table 3.6. (Continued) Pearson Correlations Between Perception of Time (FTP) and Z Scores for the Individual Partner Preference Cards When Accounting for the Covariates

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected Correlation</th>
<th>Correlation With FTP</th>
<th>Age</th>
<th>Gender</th>
<th>Years of Education</th>
<th>Income</th>
<th>Perceived Physical Health</th>
<th>Perceived Mental Health</th>
<th>Age (Res)</th>
<th>Total Physical Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card 5 - Friend/Acquaintance (&quot;A sympathetic acquaintance&quot;)</td>
<td>+</td>
<td>.03</td>
<td>-.02</td>
<td>.04</td>
<td>.04</td>
<td>.07</td>
<td>-.00</td>
<td>.11</td>
<td>.03</td>
<td>.05</td>
</tr>
<tr>
<td>Card 6 - Friend/Acquaintance (&quot;A recent acquaintance I met while being active with whom I have much in common&quot;)</td>
<td>+</td>
<td>.39*</td>
<td>.20</td>
<td>.39*</td>
<td>.39*</td>
<td>.44*</td>
<td>.26*</td>
<td>.34*</td>
<td>.39*</td>
<td>.18</td>
</tr>
<tr>
<td>Card 7 - Friend/Acquaintance (&quot;A friend who I haven't seen for a long time&quot;)</td>
<td>+</td>
<td>.29*</td>
<td>.11</td>
<td>.28*</td>
<td>.28*</td>
<td>.33*</td>
<td>.17</td>
<td>.16</td>
<td>.29*</td>
<td>.10</td>
</tr>
</tbody>
</table>

* p < .05 (two-tailed significance)
<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected Correlation</th>
<th>Correlation With FTP</th>
<th>Age</th>
<th>Gender</th>
<th>Years of Education</th>
<th>Income</th>
<th>Perceived Physical Health</th>
<th>Perceived Mental Health</th>
<th>Age (Res)</th>
<th>Total Physical Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card 8 - Friend/Acquaintance (&quot;A casual acquaintance&quot;)</td>
<td>+</td>
<td>.22*</td>
<td>.07</td>
<td>.22*</td>
<td>.21*</td>
<td>.23*</td>
<td>.13</td>
<td>.15</td>
<td>.22*</td>
<td>.09</td>
</tr>
<tr>
<td>Card 9 - Formal Partner (&quot;A medical doctor&quot;)</td>
<td>+</td>
<td>-.30*</td>
<td>.05</td>
<td>-.31*</td>
<td>-.29*</td>
<td>-.27*</td>
<td>-.27*</td>
<td>-.29*</td>
<td>-.31*</td>
<td>-.27*</td>
</tr>
<tr>
<td>Card 10 - Formal Partner (&quot;A personal trainer&quot;)</td>
<td>+</td>
<td>.63*</td>
<td>.48*</td>
<td>.63*</td>
<td>.64*</td>
<td>.64*</td>
<td>.52*</td>
<td>.58*</td>
<td>.63*</td>
<td>.43*</td>
</tr>
<tr>
<td>Card 11 - Formal Partner (&quot;The mayor of my residential district&quot;)</td>
<td>+</td>
<td>.11</td>
<td>.10</td>
<td>.11</td>
<td>.11</td>
<td>.14</td>
<td>.24*</td>
<td>.29*</td>
<td>.11</td>
<td>.26*</td>
</tr>
</tbody>
</table>

* $p < .05$ (two-tailed significance)
Table 3.6. (Continued) Pearson Correlations Between Perception of Time (FTP) and Z Scores for the Individual Partner Preference Cards When Accounting for the Covariates

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected Correlation</th>
<th>Correlation With FTP</th>
<th>COVARIATES</th>
<th>Age</th>
<th>Gender</th>
<th>Years of Education</th>
<th>Income</th>
<th>Perceived Physical Health</th>
<th>Perceived Mental Health</th>
<th>Age (Res)</th>
<th>Total Physical Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card 12 - Formal Partner (&quot;A stranger of my age&quot;)</td>
<td>+</td>
<td>.21*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.22*</td>
<td>.21*</td>
<td>.22*</td>
<td>.24*</td>
</tr>
<tr>
<td>Card 13 - Knowledgeable Partner (&quot;An author of a sport or exercise book that I have read&quot;)</td>
<td>+</td>
<td>.56*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.33*</td>
<td>.56*</td>
<td>.57*</td>
<td>.56*</td>
</tr>
<tr>
<td>Card 14 - Knowledgeable Partner (&quot;A famous athlete or fitness icon who I admire&quot;)</td>
<td>+</td>
<td>.59*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.33*</td>
<td>.60*</td>
<td>.61*</td>
<td>.59*</td>
</tr>
</tbody>
</table>

* p < .05 (two-tailed significance)
Table 3.6. (Continued) Pearson Correlations Between Perception of Time (FTP) and Z Scores for the Individual Partner Preference Cards When Accounting for the Covariates

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected Correlation</th>
<th>Correlation With FTP</th>
<th>Age</th>
<th>Gender</th>
<th>Years of Education</th>
<th>Income</th>
<th>Perceived Physical Health</th>
<th>Perceived Mental Health</th>
<th>Age (Res)</th>
<th>Total Physical Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card 15 - Knowledgeable Partner (“An interesting stranger”)</td>
<td></td>
<td>.33*</td>
<td>.23*</td>
<td>.32*</td>
<td>.34*</td>
<td>.34*</td>
<td>.19</td>
<td>.23*</td>
<td>.33*</td>
<td>.20</td>
</tr>
<tr>
<td>Card 16 - Knowledgeable Partner (“A clergy person (i.e. priest, rabbi, etc.)”)</td>
<td></td>
<td>-.41*</td>
<td>.09</td>
<td>-.41*</td>
<td>-.40*</td>
<td>-.39*</td>
<td>-.30*</td>
<td>-.34*</td>
<td>-.43*</td>
<td>-.28*</td>
</tr>
<tr>
<td>Card 17 - Controversial Partner (“A recent acquaintance I met while being active with whom I have nothing in common”)</td>
<td></td>
<td>-.04</td>
<td>-.07</td>
<td>-.05</td>
<td>-.06</td>
<td>-.01</td>
<td>.07</td>
<td>-.08</td>
<td>-.04</td>
<td>-.01</td>
</tr>
</tbody>
</table>

* p < .05 (two-tailed significance)
Table 3.6. (Continued) Pearson Correlations Between Perception of Time (FTP) and Z Scores for the Individual Partner Preference Cards When Accounting for the Covariates

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected Correlation</th>
<th>Correlation With FTP</th>
<th>COVARIATES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Age</td>
</tr>
<tr>
<td>Card 18 - Controversial Partner (“Someone I know well but do not like”)</td>
<td>+</td>
<td>-.03</td>
<td>.05</td>
</tr>
<tr>
<td>Card 19 - (“Alone”)</td>
<td>?</td>
<td>-.26*</td>
<td>-.36*</td>
</tr>
</tbody>
</table>

* p < .05 (two-tailed significance)
hypothesis, yielded a significant negative relationship, such that preference to be physically active alone was related to a limited perception of time.

When examining the TPQ, a significant positive relationship between the TPQ and the individual cards should be interpreted as a long-term time perspective being related to an increased partner preference. Also, a significant negative relationship should be interpreted as a long-term time perspective being related to a decreased partner preference. The hypothesis stated that a positive relationship was expected between the TPQ and the cards in the Friend/Acquaintance, Knowledgeable, Controversial, and Formal partner categories. On the other hand, a negative relationship was expected between the TPQ and the Family/Relative partner category.

The hypotheses were supported for 5 out of the 19 cards, which revealed a significant positive relationship. The cards came from the Friend/Acquaintance, Knowledgeable, and Formal partner categories (see Table 3.7). However, 2 out of the 19 cards also had a significant relationship, but the relationship was opposite from the hypotheses. Two cards from the Family/Relative partner category ("A close member of the family" and "A younger relative") were expected to yield negative relationships, but yielded significant positive relationships. The breakdown of the categories that the significant cards came from is described below.

The Friend/Acquaintance category had 2 out of the 5 cards showing significant positive relationships. The Formal Partner category had 1 out of 4 cards showing significant positive relationships while the Knowledgeable Partner category had 2 out of 4 cards showing significant positive relationships. Again, the 2 Controversial Partner category cards were not significant. It should be noted that the "Alone" card, which was
### Table 3.7. Pearson Correlations Between Perception of Time (TPQ) and Z Scores for the Individual Partner Preference Cards When Accounting for the Covariates

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected Correlation</th>
<th>Correlation With TPQ</th>
<th>COVARIATES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Age</td>
</tr>
<tr>
<td>Card 1 - Family/Relative (&quot;A close member of the family&quot;)</td>
<td>–</td>
<td>.28*</td>
<td>.36*</td>
</tr>
<tr>
<td>Card 2 - Family/Relative (&quot;A younger relative&quot;)</td>
<td>–</td>
<td>.28*</td>
<td>.33*</td>
</tr>
<tr>
<td>Card 3 - Family/Relative (&quot;A relative of the same age&quot;)</td>
<td>–</td>
<td>.17</td>
<td>.24*</td>
</tr>
<tr>
<td>Card 4 - Friend/Acquaintance (&quot;A close friend&quot;)</td>
<td>+</td>
<td>-.15</td>
<td>-.14</td>
</tr>
</tbody>
</table>

* *p < .05 (two-tailed significance)*
Table 3.7. (Continued) Pearson Correlations Between Perception of Time (TPQ) and Z Scores for the Individual Partner Preference Cards When Accounting for the Covariates

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected Correlation</th>
<th>Correlation With TPQ</th>
<th>COVARIATES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Age Gender</td>
</tr>
<tr>
<td>Card 5 - Friend/Acquaintance (&quot;A sympathetic acquaintance&quot;)</td>
<td>+</td>
<td>.06</td>
<td>.05</td>
</tr>
<tr>
<td>Card 6 - Friend/Acquaintance (&quot;A recent acquaintance I met while being active with whom I have much in common&quot;)</td>
<td>+</td>
<td>.24*</td>
<td>.14</td>
</tr>
<tr>
<td>Card 7 - Friend/Acquaintance (&quot;A friend who I haven't seen for a long time&quot;)</td>
<td>+</td>
<td>.20*</td>
<td>.12</td>
</tr>
</tbody>
</table>

* p < .05 (two-tailed significance)
Table 3.7. (Continued) Pearson Correlations Between Perception of Time (TPQ) and Z Scores for the Individual Partner Preference Cards When Accounting for the Covariates

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected Correlation</th>
<th>Correlation With TPQ</th>
<th>Age</th>
<th>Gender</th>
<th>Years of Education</th>
<th>Income</th>
<th>Perceived Physical Health</th>
<th>Perceived Mental Health</th>
<th>Age (Res)</th>
<th>Total Physical Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card 8 - Friend/Acquaintance (“A casual acquaintance”)</td>
<td>+</td>
<td>.10</td>
<td>.03</td>
<td>.10</td>
<td>.11</td>
<td>.10</td>
<td>.04</td>
<td>.03</td>
<td>.11</td>
<td>-.00</td>
</tr>
<tr>
<td>Card 9 - Formal Partner (“A medical doctor”)</td>
<td>+</td>
<td>-.04</td>
<td>.11</td>
<td>-.02</td>
<td>-.04</td>
<td>-.07</td>
<td>-.00</td>
<td>-.01</td>
<td>-.08</td>
<td>.03</td>
</tr>
<tr>
<td>Card 10 - Formal Partner (“A personal trainer”)</td>
<td>+</td>
<td>.38*</td>
<td>.26*</td>
<td>.39*</td>
<td>.37*</td>
<td>.38*</td>
<td>.29*</td>
<td>.31*</td>
<td>.36*</td>
<td>.19</td>
</tr>
<tr>
<td>Card 11 - Formal Partner (“The mayor of my residential district”)</td>
<td>+</td>
<td>.06</td>
<td>.04</td>
<td>.05</td>
<td>.06</td>
<td>.04</td>
<td>.13</td>
<td>.20</td>
<td>.05</td>
<td>.13</td>
</tr>
</tbody>
</table>

* p < .05 (two-tailed significance)
Table 3.7. (Continued) Pearson Correlations Between Perception of Time (TPQ) and Z Scores for the Individual Partner Preference Cards When Accounting for the Covariates

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected Correlation</th>
<th>Correlation With TPQ</th>
<th>Age</th>
<th>Gender</th>
<th>Years of Education</th>
<th>Income</th>
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<th>Perceived Mental Health</th>
<th>Age (Res)</th>
<th>Total Physical Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card 12 - Formal Partner (&quot;A stranger of my age&quot;)</td>
<td>+</td>
<td>.12</td>
<td>.08</td>
<td>.12</td>
<td>.11</td>
<td>.10</td>
<td>.12</td>
<td>.03</td>
<td>.09</td>
<td>.09</td>
</tr>
<tr>
<td>Card 13 - Knowledgeable Partner (&quot;An author of a sport or exercise book that I have read&quot;)</td>
<td>+</td>
<td>.33*</td>
<td>.20</td>
<td>.35*</td>
<td>.33*</td>
<td>.34*</td>
<td>.23*</td>
<td>.26*</td>
<td>.33*</td>
<td>.12</td>
</tr>
<tr>
<td>Card 14 - Knowledgeable Partner (&quot;A famous athlete or fitness icon who I admire&quot;)</td>
<td>+</td>
<td>.32*</td>
<td>.18</td>
<td>.36*</td>
<td>.31*</td>
<td>.33*</td>
<td>.21*</td>
<td>.22*</td>
<td>.33*</td>
<td>.11</td>
</tr>
</tbody>
</table>

*p < .05 (two-tailed significance)
Table 3.7. (Continued) Pearson Correlations Between Perception of Time (TPQ) and Z Scores for the Individual Partner Preference Cards When Accounting for the Covariates

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected Correlation</th>
<th>Correlation With TPQ</th>
<th>Age</th>
<th>Gender</th>
<th>Years of Education</th>
<th>Income</th>
<th>Perceived Physical Health</th>
<th>Perceived Mental Health</th>
<th>Age (Res)</th>
<th>Total Physical Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card 15 - Knowledgeable Partner (&quot;An interesting stranger&quot;)</td>
<td>+</td>
<td>.18</td>
<td>.09</td>
<td>.19</td>
<td>.17</td>
<td>.17</td>
<td>.09</td>
<td>.08</td>
<td>.17</td>
<td>.06</td>
</tr>
<tr>
<td>Card 16 - Knowledgeable Partner (&quot;A clergy person (i.e. priest, rabbi, etc.)&quot;)</td>
<td>+</td>
<td>-.07</td>
<td>.13</td>
<td>-.08</td>
<td>-.08</td>
<td>-.09</td>
<td>.02</td>
<td>.02</td>
<td>-.15</td>
<td>.08</td>
</tr>
<tr>
<td>Card 17 - Controversial Partner (&quot;A recent acquaintance I met while being active with whom I have nothing in common&quot;)</td>
<td>+</td>
<td>.19</td>
<td>.21*</td>
<td>.20</td>
<td>.20*</td>
<td>.17</td>
<td>.27*</td>
<td>.17</td>
<td>.21*</td>
<td>.23*</td>
</tr>
</tbody>
</table>

* p < .05 (two-tailed significance)
Table 3.7 (Continued) Pearson Correlations Between Perception of Time (TPQ) and Z Scores for the Individual Partner Preference Cards When Accounting for the Covariates

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected Correlation</th>
<th>Correlation With TPQ</th>
<th>COVARIATES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Age</td>
</tr>
<tr>
<td>Card 18 - Controversial Partner (&quot;Someone I know well but do not like&quot;)</td>
<td>+</td>
<td>.10</td>
<td>.12</td>
</tr>
<tr>
<td>Card 19 - (&quot;Alone&quot;)</td>
<td>?</td>
<td>-.29*</td>
<td>-.27*</td>
</tr>
</tbody>
</table>

* p < .05 (two-tailed significance)
not included in the hypothesis, yielded a significant negative relationship meaning it was related to increased partner preference with a short-term time perspective.

When accounting for covariates (age, gender, years of education, income, perceived physical health, perceived mental health, age (residual), and TPA) some of the relationships changed to non-significance, while others changed to significance (see Tables 3.6 and 3.7). For example, when examining the relationship between perceptions of time and partner preference using the FTP scale, Card1 ("A close member of the family") originally did not show significance, but when accounting for age became significant ($r = .22, p < .05$; see Table 3.6). Also, Card6 ("A recent acquaintance I met while being active with whom I have much in common") originally showed significance ($r = .39, p < .05$), but when accounting for age and TPA no longer showed significance. When examining the relationship with the TPQ scale, there were also changes from significance to non-significance and vice versa. For example, Card3 ("A relative of the same age") originally did not show significance, but when accounting for age became significant ($r = .24, p < .05$; see Table 3.7). Also, Card10 ("A personal trainer") was found to be significant ($r = .38, p < .05$) and then when Total Physical Activity was accounted for it was no longer significant. The interpretation of these changes in significance is explained further in section 3.2.2.7.

3.1.2.3 Secondary (Exploratory) Hypothesis

The first part of the secondary hypothesis was to examine the relationship between the preferred partner cards and the actual partner cards from the card sort tasks. It was hypothesized that the correlations would be significant, such that participants would tend to be physically active with preferred partners. Results showed that 8 out the 19 cards had a significant positive relationship (see Table 3.8). A positive relationship
signified that if someone preferred to be active with the partner, they were active with the partner or if they preferred not to be active with the partner, they were not active with them. The Family/Relative category had 2 out of the 3 cards that revealed a significant positive relationship. The Friend/Acquaintance category had 2 out of the 5 cards showing significant positive relationships. The Formal Partner category had 1 out of 4 cards showing significant positive relationships while the Knowledgeable Partner category had 1 out of 4 cards showing a significant positive relationship. The Controversial Partner category has 1 out of the 2 cards with a significant positive relationship. The Alone card revealed a significant positive relationship. There were no significant negative relationships (see Table 3.8). These results are discussed further in section 3.2.3.

The second part of the secondary hypothesis was to examine the relationship between individual perceptions of time and actual exercise partners. This relationship was examined using Pearson’s product moment correlations between the two time perspective measures (FTP and TPQ) and the 19 individual partner cards. When examining the FTP, the results show that 5 out of the 19 cards yielded a significant positive relationship and no cards yielded a significant negative relationship (see Table 3.9). Two of the cards came from the Friend/Acquaintance category, with two more cards coming from the Formal Partner category, and finally one card from the Knowledgeable Partner category. These significant positive relationships mean that an individual with an expansive perception of time is more likely to be physically active with these partners.
Table 3.8. Pearson Correlations Between Partner Preference Cards and Actual Partner Cards

<table>
<thead>
<tr>
<th>Partner Card (Same for Preferred and Actual)</th>
<th>Correlation (* p &lt; .05)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card1 - Family/Relative (&quot;A close member of the family&quot;)</td>
<td>.53*</td>
</tr>
<tr>
<td>Card2 - Family/Relative (&quot;A younger relative&quot;)</td>
<td>.40*</td>
</tr>
<tr>
<td>Card3 - Family/Relative (&quot;A relative of the same age&quot;)</td>
<td>-.08</td>
</tr>
<tr>
<td>Card4 - Friend/Acquaintance (&quot;A close friend&quot;)</td>
<td>-.09</td>
</tr>
<tr>
<td>Card5 - Friend/Acquaintance (&quot;A sympathetic acquaintance&quot;)</td>
<td>.19</td>
</tr>
<tr>
<td>Card6 - Friend/Acquaintance (&quot;A recent acquaintance I met while being active with whom I have much in common&quot;)</td>
<td>.35*</td>
</tr>
<tr>
<td>Card7 - Friend/Acquaintance (&quot;A friend who I haven't seen for a long time&quot;)</td>
<td>-.07</td>
</tr>
<tr>
<td>Card8 - Friend/Acquaintance (&quot;A casual acquaintance&quot;)</td>
<td>.33*</td>
</tr>
<tr>
<td>Card9 - Formal Partner (&quot;A medical doctor&quot;)</td>
<td>.11</td>
</tr>
<tr>
<td>Card10 - Formal Partner (&quot;A personal trainer&quot;)</td>
<td>.39*</td>
</tr>
</tbody>
</table>
### Table 3.8. (Continued) Pearson Correlations Between Partner Preference Cards and Actual Partner Cards

<table>
<thead>
<tr>
<th>Partner Card (Same for Preferred and Actual)</th>
<th>Correlation (*p &lt; .05)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card 11 - Formal Partner</td>
<td></td>
</tr>
<tr>
<td>(&quot;The mayor of my residential district&quot;)</td>
<td></td>
</tr>
<tr>
<td>Card 12 - Formal Partner</td>
<td>.03</td>
</tr>
<tr>
<td>(&quot;A stranger of my age&quot;)</td>
<td></td>
</tr>
<tr>
<td>Card 13 - Knowledgeable Partner</td>
<td></td>
</tr>
<tr>
<td>(&quot;An author of a sport or exercise book that I have read&quot;)</td>
<td></td>
</tr>
<tr>
<td>Card 14 - Knowledgeable Partner</td>
<td>.06</td>
</tr>
<tr>
<td>(&quot;A famous athlete or fitness icon who I admire&quot;)</td>
<td></td>
</tr>
<tr>
<td>Card 15 - Knowledgeable Partner</td>
<td>.30*</td>
</tr>
<tr>
<td>(&quot;An interesting stranger&quot;)</td>
<td></td>
</tr>
<tr>
<td>Card 16 - Knowledgeable Partner</td>
<td>.08</td>
</tr>
<tr>
<td>(&quot;A clergy person (i.e. priest, rabbi, etc.)&quot;)</td>
<td></td>
</tr>
<tr>
<td>Card 17 - Controversial Partner</td>
<td>.16</td>
</tr>
<tr>
<td>(&quot;A recent acquaintance I met while being active with whom I have nothing in common&quot;)</td>
<td></td>
</tr>
<tr>
<td>Card 18 - Controversial Partner</td>
<td>.28*</td>
</tr>
<tr>
<td>(&quot;Someone I know well but do not like&quot;)</td>
<td></td>
</tr>
<tr>
<td>Card 19</td>
<td>.55*</td>
</tr>
<tr>
<td>(&quot;Alone&quot;)</td>
<td></td>
</tr>
</tbody>
</table>

**Note:**

The dashed lines (----) signify that no participants were physically active with these partners.
Table 3.9. Pearson Correlations Between Perception of Time (FTP and TPQ) and the Z Scores for the Individual Actual Partner Cards

<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation With FTP</th>
<th>Correlation With TPQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card 1 - Family/Relative (&quot;A close member of the family&quot;)</td>
<td>-.01</td>
<td>.25*</td>
</tr>
<tr>
<td>Card 2 - Family/Relative (&quot;A younger relative&quot;)</td>
<td>-.02</td>
<td>.20*</td>
</tr>
<tr>
<td>Card 3 - Family/Relative (&quot;A relative of the same age&quot;)</td>
<td>-.05</td>
<td>.00</td>
</tr>
<tr>
<td>Card 4 - Friend/Acquaintance (&quot;A close friend&quot;)</td>
<td>.17</td>
<td>.06</td>
</tr>
<tr>
<td>Card 5 - Friend/Acquaintance (&quot;A sympathetic acquaintance&quot;)</td>
<td>.14</td>
<td>.11</td>
</tr>
<tr>
<td>Card 6 - Friend/Acquaintance (&quot;A recent acquaintance I met while being active with whom I have much in common&quot;)</td>
<td>.38*</td>
<td>.19</td>
</tr>
<tr>
<td>Card 7 - Friend/Acquaintance (&quot;A friend who I haven’t seen for a long time&quot;)</td>
<td>.12</td>
<td>.22*</td>
</tr>
<tr>
<td>Card 8 - Friend/Acquaintance (&quot;A casual acquaintance&quot;)</td>
<td>.43*</td>
<td>.35*</td>
</tr>
<tr>
<td>Card 9 - Formal Partner (&quot;A medical doctor&quot;)</td>
<td>-.17</td>
<td>.05</td>
</tr>
<tr>
<td>Card 10 - Formal Partner (&quot;A personal trainer&quot;)</td>
<td>.34*</td>
<td>.28*</td>
</tr>
</tbody>
</table>

* p < .05 (two-tailed significance)
Table 3.9. (Continued) Pearson Correlations Between Perception of Time (FTP and TPQ) and the Z Scores for the Individual Actual Partner Cards

<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation With FTP</th>
<th>Correlation With TPQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card 11 - Formal Partner</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>(“The mayor of my residential district”)</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Card 12 - Formal Partner</td>
<td>.32*</td>
<td>.23*</td>
</tr>
<tr>
<td>(“A stranger of my age”)</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Card 13 - Knowledgeable Partner</td>
<td>.39*</td>
<td>.32*</td>
</tr>
<tr>
<td>(“An author of a sport or exercise book that I have read”)</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Card 14 - Knowledgeable Partner</td>
<td>-.08</td>
<td>.07</td>
</tr>
<tr>
<td>(“A famous athlete or fitness icon who I admire”)</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Card 15 - Knowledgeable Partner</td>
<td>.39*</td>
<td>.32*</td>
</tr>
<tr>
<td>(“An interesting stranger”)</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Card 16 - Knowledgeable Partner</td>
<td>.06</td>
<td>.11</td>
</tr>
<tr>
<td>(“A clergy person (i.e. priest, rabbi, etc.)”)</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Card 17 - Controversial Partner</td>
<td>.19</td>
<td>.09</td>
</tr>
<tr>
<td>(“A recent acquaintance I met while being active with whom I have nothing in common”)</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Card 18 - Controversial Partner</td>
<td>.12</td>
<td>.15</td>
</tr>
<tr>
<td>(“Someone I know well but do not like”)</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Card 19</td>
<td>-.10</td>
<td>-.21*</td>
</tr>
<tr>
<td>(“Alone”)</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

Note:

* p < .05 (two-tailed significance)

The dashed lines (----) signify that no participants were physically active with these partners.
When examining the TPQ, the results show that 7 out of the 19 cards had a significant positive relationship and 1 out of 19 cards had a significant negative relationship (see Table 3.9). Of the significant positive relationships, two of the cards came from the Family/Relative category, with two more each coming from the Friend/Acquaintance category and the Formal Partner category and finally one card from the Knowledgeable Partner category. These significant positive relationships signify that someone with a long-term time perspective is more likely to be physically active with these partners. The negative significant relationship came from the Alone card and this relationship is such that if you have a long-term time perspective you are less likely to exercise alone compared to someone with a short-term time perspective.

The final part of the secondary hypothesis was to examine the relationship between the two time perspective measures (FTP and TPQ). These two measures have never been used together, but were expected to be related. The results showed that they were significantly related ($r = .51, p < .05$; see Table 3.4), which is discussed further in section 3.2.3.

One last point of note deals with the preferred context of exercise. Participants were asked to identify what context of exercise they preferred (i.e., alone, with friends, in an organized program, other). The preferred choice was to be active in an organized program. See Table 3.10 for the breakdown of the results.
Table 3.10. Frequencies for Preferred Context of Exercise ($N = 95$)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alone</td>
<td>9</td>
<td>9.5</td>
</tr>
<tr>
<td>With friends</td>
<td>21</td>
<td>22.1</td>
</tr>
<tr>
<td>In a organized program</td>
<td>57</td>
<td>60</td>
</tr>
<tr>
<td>Other</td>
<td>8</td>
<td>8.4</td>
</tr>
</tbody>
</table>
3.2 DISCUSSION

Research has shown that individual perceptions of time are related to partner preference; however, this relationship has not been tested in the physical activity context. Since the physical activity setting provides us with a unique situation because of the health benefits that it provides, it is important to study the SEST in this setting. Therefore, the primary objective of this research project was to examine the relationship between individual perceptions of time and partner preference in the physical activity setting.

3.2.1 Preliminary Hypotheses

To begin, results of the preliminary hypothesis showed support for previous research. First, older adults were more likely to have a limited perception of time, whereas younger adults were more likely to have an expansive perception of time. The relationship between the FTP and age ($r = -.87, p > .05$) for this study was consistent with Lang and Carstensen (2002), who found the FTP to be strongly negatively associated with age cohort ($r = -.70$). When the relationship was examined with the TPQ, a significant negative relationship was found between age and time perspectives ($r = -.35, p > .05$). This translates into older adults being more likely to have a short-term time perspective compared to younger adults, who are more likely to have a long-term time perspective. It comes as no surprise that age was related to perceptions of time as the SEST states that older adults have limited perceptions of time. Subsequently, if these older adults perceive their time as limited, they might not be as worried about the long-term consequences of their actions and would, therefore, be more likely to have a short-term time perspective.
Second, there was a significant negative relationship between age and all the physical activity measures. Specifically, the relationship between age and Total Physical Activity revealed the strongest negative relationship \((r = -0.46, p > 0.05)\). This is consistent with previous research, which has suggested that physical activity levels decrease with age (Stephens & Caspersen, 1994; Swenson, Marshall, Mikulich-Gilbertson, Baxter, & Morgenstern, 2005).

Third, there was a positive significant relationship between perceptions of time and physical activity levels. Specifically, those participants who were more active were also more likely to have an expansive perception of time \((r = 0.64, p > 0.05)\) and long-term time perspective \((r = 0.43, p > 0.05)\) compared to those who were less active and were more likely to have a limited perception of time and a short-term time perspective. It has been suggested that the physical activity setting has the potential to influence one’s perception of time because of the health benefits it provides. Hall and Fong (2003) performed a study with 81 undergraduate students who were involved in aerobic classes. There were two intervention conditions (time perspective and goal-setting control intervention) and one no-treatment condition. They found that the effects of the time perspective intervention extended to six months. This was found for both vigorous activity and for strength and flexibility. Hall and Fong (2003) stated that this study provided encouraging evidence that time perspective interventions can promote maintenance of behaviour change within the physical activity domain. Thus, there might be a direct relationship between perceptions of time and physical activity. However, an alternative explanation could be that there is an indirect relationship between physical activity and perceptions and time. The significant relationship between perceptions of
time and physical activity might simply reflect that age is related to both physical activity and perceptions of time.

A strength of this study was that multiple self-report measures of physical activity were utilized. This approach was somewhat useful in that relationships between physical activity and other constructs were the strongest for the composite physical activity score compared to any single measure; however, although the composite measure did have the strongest relationships, it was only marginally better than any of the other measures alone. This suggests that multiple self-report measures might not be necessary. When the results of the relationship between the physical activity measures and other measures were examined, this study showed that the short and less-time consuming measures (i.e., Godin LTEQ and Physical Activity Rating) seemed to be just as effective as the longer and more time consuming PAR because of the closeness of the result scores. Also, during the course of the study, participants did express some dissatisfaction and frustration with filling out the lengthy PAR. Thus, for the benefit of the participants, it is suggested that the shorter Godin LTEQ and Physical Activity Rating are likely adequate when looking at perceptions of time and physical activity.

3.2.2 Primary Hypothesis

The primary hypothesis was that individual perceptions of time would be related to partner preference in the physical activity setting. According to the SEST, those with an expansive perception of time should be more likely to choose novel social partners, which include knowledgeable, formal, and controversial partners (Lang & Carstensen, 2002). On the other hand, those with a limited perception of time should be more likely to choose close and familiar social partners, which include family/relative and friend/acquaintance partners (Lang & Carstensen, 2002). It should be noted that it was
hypothesized that the partners from the friend/acquaintance group would be preferred by those with an expansive perception of time because of the casual nature of the partners in this category, which is contrary to the SEST. The following sections break down the results for the relationship between individual perceptions of time and the partner preferences. The discussion is sectioned for the five partner categories, but discusses individual partners within the categories and the implications of the results. Each section also includes a discussion of the TPQ and the partner preference category.

3.2.2.1 Family/Relative Partners

When examining the relationship with the FTP, none of the 3 cards from this category revealed a significant relationship. This does not support the SEST, as it was expected that these partners would be preferred by those with a limited perception of time. This contradicts Lang and Carstensen (2002), whose findings were consistent with the SEST. Perhaps the reason why none of the cards from this category showed significant results could be attributed to the high preference to be active with these partners among all individuals, regardless of their perception of time. Table 3.5 shows that all three cards in the category were placed into the most preferred pile or the middle collapsed pile. For example, the “A close member of the family” card was put into the most preferred pile by 73 out of 95 participants, while the remaining 22 participants had this card end up in the middle collapsed pile. None of the participants for any of the family/relative partners included them in the least preferred partner category. Thus, it seems that everyone, regardless of their age or perception of time, has at least some preference to be active with family and relatives.

Carstensen et al. (1999) suggested that the family is an important part of the social circle, and the preference across perceptions of time for family/relative partners
might simply reflect physical activity as a context within which to grow family/relative relationships regardless of stage of life. Also, it could be speculated that if you have an individual who becomes involved in physical activity in order to obtain the health benefits that it provides, he or she may feel that the family should also be active and gain the same benefits. However, there is also the possibility that different family members might have different interests in regard to types of physical activity. Hence, the family members would not be preferred. Regardless of the situation, it would be beneficial to explore this further by having participants identify why or why not when it comes to choosing family as the preferred partner in the physical activity setting.

When examining the relationship with the TPQ, it was expected that these partners would be preferred by those with a short-term time perspective. However, 2 out of the 3 cards ("A close member of the family" and "A younger relative") that were significant revealed that these partners were preferred by those with a long-term time perspective. A long-term time perspective has been shown to be associated with engaging in health protective behaviours (Hall & Fong, 2003). If individuals are focused on living a health conscious life, it is possible that they want family members to receive the same benefits that they do. If their life is surrounded with physical activity, keeping their family active with them may be one of their only options to stay involved with these partners.

3.2.2.2 Friend/Acquaintance Partners

With the FTP, 3 out of the 5 cards in the category ("A recent acquaintance I met while being active with whom I have much in common", "A friend who I haven’t seen for a long time", and "A casual acquaintance") revealed a positive significant relationship. Again, this does not support the SEST, as it was expected that these cards
would be preferred by those with a limited perception of time and, thus show a negative relationship. However, these results were consistent with findings from Lang and Carstensen (2002) who found this category was preferred by those with an expansive perception of time. Their rationale for this finding was that the cards in this category were mostly concerned with casual friends and acquaintances and that these partners would not be considered as close social partners that would help in a time of need.

Thus, it seems that they are more likely to be chosen for the purposes of acquisition of knowledge by those with an expansive perception of time. However, an alternative explanation could be that these partners do not necessarily offer knowledge, but rather that they are more likely to be less preferred by those with an expansive perception of time because they are not as emotionally fulfilling as a close friend would be.

The TPQ revealed similar results in that 2 out of the 5 cards ("A recent acquaintance I met while being active with whom I have much in common" and "A friend who I haven't seen for a long time") also revealed a positive significant relationship. This translates into these partners being preferred by someone with long-term time perspective. After examining the two cards that were significant, it makes sense that these cards yielded this relationship. If an individual is focused on being active and they meet someone with the same interests, the addition of this new partner into the social circle becomes an easy transition because of the commonality. Also, if you have an individual who has focused on health for most of his/her life, perhaps bringing back an old friend would provide social support for the physical activity experience. As was mentioned in the literature review, buddy systems, spousal participation, encouragement, and positive feedback from exercise leaders and fellow participants have all been suggested as factors for individuals to continue with their
exercise programs (Duncan & McAuley, 1993). Perhaps, the preference for participation in physical activity with those whom they have much in common or an old friend reflects a common interest in physical activity and its long-term benefits among those partners.

### 3.2.2.3 Knowledgeable Partners

With the FTP, all of the 4 cards in this category showed a significant result, but there were differences in the direction of the relationships. There were 3 cards ("An author of a sport or exercise book that I have read", "A famous athlete or fitness icon who I admire", and "An interesting stranger") that revealed the expected positive significant relationship; this is consistent with both the SEST and the findings of Lang and Carstensen (2002). There is support for Lang and Carstensen’s (2002) suggestion regarding receiving advice more often from knowledgeable partners when time is perceived as expansive. These two partners or sources of knowledge could provide in depth information about training habits and other important points that should be considered when involved in physical activity. However, one card ("A clergy person (i.e., priest, rabbi, etc.)") revealed a negative significant relationship, which does not show support for the SEST. It was unclear why this relationship was negative. Lang and Carstensen (2002) suggested that preferring knowledgeable partners was associated with receiving advice more often from others when the future is perceived as expansive, but in this case we have the clergy person being preferred by those with a limited perception of time. Perhaps this reflects a potential relationship between age and preferences towards clergy members as partners, as is evidence by the non-significant between the FTP and this partner, when age was accounted for as a covariate (see Section 3.2.2.7 for a further discussion of the covariate variables).
With the TPQ, 2 out of the 4 cards ("An author of a sport or exercise book that I have read" and "A famous athlete or fitness icon who I admire") showed the expected positive significant relationship. This suggests that a long-term time perspective is associated with preferring resourceful partners that could be helpful when it comes to the physical activity setting. Similar to the FTP, these partner preferences might reflect a source of social support that can assist in the achievement long-term physical activity goals.

3.2.2.4 Formal Partners

With the FTP, 3 out of the 4 cards in the category revealed significant results. There were 2 cards ("A personal trainer" and "A stranger of my age") that showed the expected positive significant relationship and were consistent with the results of Lang and Carstensen (2002). However, one card ("A medical doctor") revealed a negative significant relationship, which does not show support for the SEST. It was unclear why this relationship was negative. Lang and Carstensen (2002) suggested that the preference for formal partners when time is perceived as limited is difficult to understand. However, preferring formal partners may have something to do with regulating one's emotions when time is perceived as limited. For example, someone might seek the advice of a doctor in order to give them comfort about his/her current health situation. Lang and Carstensen (2002) also suggested that formal partners are preferred because of the immediate information they can provide in contrast to the rewards associated with knowledgeable partners. In other words, you can be given all the knowledge by a famous athlete or fitness icon, but it will take some time to turn that knowledge into reward. A formal partner like a doctor can provide immediate feedback and hence regulate one’s emotions or help them become at ease with his/her current situation. A
family or personal doctor may be a part of the close social circle and might be trusted when it comes to health benefit information. Also, similar to a preference for clergy partners among those with limited perception of time, this relationship might just reflect an age/medical doctor relationship, as this relationship too was not significant when age was accounted for as a covariate.

With the TPQ, only one card ("A personal trainer") revealed a significant relationship that was positive. It was surprising that this partner was preferred by those with a short-term time perspective, considering that a short-term time perspective is associated with focusing on the “here and now” and has been shown to be negatively associated with healthy behavioural practices. However, if someone was focused on the “here and now” in the physical activity setting, a personal trainer would be a key element in providing immediate information and benefits (i.e. getting fit quicker with the assistance of a qualified professional) as discussed by Lang and Carstensen (2002).

3.2.2.5 Controversial Partners

With both the FTP and TPQ, neither of the two partners ("A recent acquaintance I met while being active with whom I have nothing in common" and "Someone I know well but do not like") in this category revealed significant results. This does not lend support for the SEST and these results were not consistent with findings from Lang and Carstensen (2002). They found controversial partners were preferred over family/relatives and formal partners when time was perceived as expansive. Fung et al. (2001) suggested that not only do older people maintain a relationship with their close partners, but they also choose to interact with them. In this situation, perhaps a relationship is maintained, but interaction is kept to a minimum or perhaps to no interaction at all. For older adults, having controversial partners as part of the social
circle would probably not lend to regulation of emotions. However, regardless of perceptions of time, no one prefers to participate in physical activity with someone who is controversial. For those with a limited perception of time especially, it is unlikely that the quest for knowledge could override the lack of interest in participating in physical activity with members of this group. However, it appears that those with an expansive perception of time also might not be willing to "put up with" a controversial partner in a physical activity setting despite the potential for knowledge acquisition.

3.2.2.6 The “Alone” Card

The card-sorting tasks included an “Alone” card in order to evaluate how it relates to perceptions of time. Both the FTP and TPQ had a significant negative relationship with the “Alone” card, which translates into those with expansive perception of time or long-term time perspective being more likely than their counterparts to prefer being physically active alone. It is not clear why these relationships would have emerged. Perhaps, those with an expansive perception of time or long-term time perspective are focused more on acquiring the longer-term physical health benefits of physical activity as opposed to the shorter-term emotional benefits that could be accrued by doing physical activity with a partner. Alternatively, these individuals may be in a situation where the activity has to be done in a certain time frame and a partner may slow that down.

However, despite this apparent relationship between perceptions of time and the preference for participating in physical activity alone, it should be noted that when asked about preferred context of exercise, only 9.5% of the sample preferred to be active on their own. With this preference to be physically active alone, whether it comes from the card-sort task or the preferred context of exercise, there is an issue as to whether or not
these participants should be left in for data analysis. The purpose was to examine the relationship between perceptions of time and partner preference, and if the partner preference selection resulted in the greatest preference to be alone, these results may have an effect on the overall relationship. However, if someone has the greatest preference to be active alone, he/she can still have a preference for different kinds of partners, when presented with the options. Because of this, all participants were included in the data analysis.

Being active in an organized program was the strongest preference for 60% of the sample. This is supported in the literature by Courneya and McAuley (1995), who reported that 65% of those who exercise choose to do so in groups. Being active in an organized program could provide an excellent opportunity for individuals, no matter what their perception of time, to meet new people and expand their social circle. Research has shown that there are opportunities for older adults who participate in a group exercise program to develop supportive social networks (O'Brien Cousins, 1995). Thus, being involved in an organized program, whether it is with close friends and family or with the intention of meeting new people, makes sense in regards to having a social circle that meets one’s emotional needs.

**3.2.2.7 Examining the Primary Hypothesis Accounting for Covariates**

When accounting for covariates, it was hypothesized that the relationship would remain unchanged. There were changes from significance to non-significance and vice versa for some of the individual partners. Overall, in 20 of 144 cases the relationship changed when accounting for the covariates. The covariates that had the most effect on the relationship were age and total physical activity, but perceived physical health and perceived mental health also acted as important covariates in a few cases.
With regards to age, when examining the relationship between perceptions of time and partner preference for the partner "A close member of the family", there was no significance. However, when accounting for the covariate of age (meaning you remove the variance of age from perceptions of time and partner preference) the relationship then became significant. Thus, age appears to be a suppressor variable.

Sometimes an independent variable is found to be useful in predicting the dependent variable (Tabachnick & Fidell, 2001). This independent variable now becomes a suppressor variable because it suppresses the variance that is irrelevant to the prediction of the dependent variable (Tabachnick & Fidell, 2001). A suppressor variable is defined by its enhancement of the effects of other variables in the set of independent variables (Tabachnick & Fidell, 2001). For this study, when the irrelevant variance (i.e., variance that does not relate to partner preference), which is age, is suppressed the remaining variance on perceptions of time is more strongly tied to partner preference.

There was one other card in which the relationship shifted from non-significant to significant when accounting for the covariates. The "mayor of my residential district" revealed a non-significant relationship ($r = .11$), but when accounting for perceived physical health ($r = .24, p < .05$), perceived mental health ($r = .29, p < .05$), and total physical activity ($r = .26, p < .05$) the relationship became significant. In this case the perceived physical health and perceived mental health, and total physical activity were acting as suppressor variables.

With regard to total physical activity, the partner "A friend who I haven’t seen for a long time" showed a significant positive relationship meaning this partner was preferred by an expansive perception of time. However, when total physical activity was accounted for (remove the variance of total physical activity from perceptions of time
and partner preference), the relationship became non-significant. In other words, when physical activity levels are removed from perceptions of time and partner preference, selecting partners for physical activity loses its significance. Lang and Carstensen (2002) showed similar patterns. For example, their results showed a significant relationship between the FTP and the Knowledgeable partners, but when accounting for the residual age, the relationship was no longer significant.

There were several more instances like this one, where a significant relationship shifted to a non-significant relationship when accounting for certain covariates. Not only were age and total physical activity having an effect, but perceived physical health and perceived mental health were the other covariates that were causing the shift. For the partner “A recent acquaintance I met while being active with whom I have much in common”, age and total physical activity were the covariates that changed the relationship to non-significant. All four covariates changed the relationship for the partner “A friend who I haven’t seen for a long time” and “A casual acquaintance”. The partner “A medical doctor” was only affected by age as a covariate, along with the partner “A clergy person”. The partner “A stranger of my age” was influenced by perceived mental health and total physical activity, whereas the partner “An interesting stranger” was influenced by perceived physical health and total physical activity. In other words when age, physical activity levels, perceived physical health, and perceived mental health are removed from perceptions of time and partner preference, selecting partners for physical activity again loses its significance.

3.2.2.8 The FTP, TPQ, and Partner Preference Categories

There are some similarities between the FTP and TPQ. For example, someone with a short-term time perspective is focused on the “here and now”, and someone with
a limited perception of time is also focused on the “here and now” because he/she perceives that he/she is nearing the end of time. There are also differences between the FTP and TPQ. The FTP was developed in order to determine the degree of individual future time perspective and the TPQ was developed in order to ask participants to describe themselves with reference to statements about their assessment of short-term versus long-term outcomes, and the influence of these long-term outcomes on their decision making processes. The FTP will help to determine how much time people perceive to have left in life and the TPQ will help determine where the focus is in regard to the consequences of actions. These measures are tapping different areas and this could help to explain the different results that were shown when examining the primary relationship. For example, when using the FTP, none of the family/relative cards revealed a significant relationship. However, when using the TPQ, 2 out of the 3 cards revealed significant results. Therefore, when examining how people perceive their time, family/relative partners were preferred by all regardless of age. When examining the focus on one’s consequences of their actions, those with a short-term time perspective preferred these partners compared to those with a long-term time perspective. Those who were focused on the “here and now” preferred these partners for whatever reason, but that is certainly different from preferring them regardless of age. Although there are connections and differences that can be discussed in regard to these measures, they should be examined together in the future with the purpose of acquiring more in depth information on the benefits and limitations of using each time perspective.

The original plan for this study was to examine the relationship between perceptions of time and partner preference using the five partner categories. This would allow for comparison to previous research (Lang & Carstensen, 2002). However, due to
the internal consistencies of the categories, the relationship was examined using the individual cards, which is recommended for future research in the physical activity domain, as opposed to the categories proposed in previous research. The cards were modified in this study to make them more relevant to the physical activity setting. As such, when examining the relationship with the FTP, the “personal trainer” revealed the highest correlation ($r = .63$). For the physical activity setting, it makes sense that those with an expansive perception of time would prefer a personal trainer for the purposes of knowledge acquisition. Narrowing the focus may help in the development of physical activity interventions, if the preferred partners could be identified using an individual card strategy, at least until more appropriate categories can be developed for the physical activity setting.

3.2.2.9 Other Issues

The relationship between perceptions of time and partner preference has been examined, but one issue that has not been discussed is the relationship between perceived health and perceptions of time. It could be argued that how someone perceives his/her health would influence how they perceive their time left in life. There was a significant relationship between the FTP and perceived physical health ($r = .47, p < .05$), and the FTP and perceived mental health ($r = .37, p < .05$). It has been discussed that time can change under different circumstances and there is the possibility that time can be changed, but in this instance perceived health was assessed in a broad manner. Therefore, there might be more specific relationships between perceived health and perceptions of time that were missed. This should be addressed in future research in order to determine if there is a solid link between these variables.
Also, it is important to briefly discuss gender differences. Recently, Lee (2005) found that older women are less active than older men, but little is known about the specific factors underlying the difference between genders in physical activity. There are many possibilities of different things happen. Perhaps, because older men are more active they have a greater social circle than women. Perhaps, older men prefer to be active alone, whereas women will fill their social circles through other methods. Whatever the case may be, it will be important for future research to look deeper into this issue to find out if gender differences play an important role in the relationship between perceptions of time and partner preference.

3.2.3 Secondary Hypotheses

The two time perspective measures have not been previously examined together, but this study has shown support for a relationship between the two measures. The SEST states that as people move towards the end of life, they are motivated to maximize their satisfaction in the here and now through selection of social partners (Fung et al., 2001). A short-term time perspective has been shown to be negatively associated with healthy behavioural practices because the focus is on the here and now (Hall & Fong, 2003). It makes sense that a limited perception of time and a short-term time perspective would be related because of the common focus on the here and now.

However, it could be argued that just because someone perceives his/her time as limited, doesn’t mean that they aren’t concerned with how they take care of themselves. For example, someone who has lived a long and very healthy life because he/she have made a conscious effort to constantly take care of themselves could still see their time as limited if they are an old age, but because he/she have lived a health conscious life that has come them this far, habit might dictate that this pattern remain. On the contrary,
there could be individuals who perceive their time as open-ended and they might not have immediate concerns about their health behaviours because there is lots of time to deal with the implications of unhealthy living later. Perhaps in future research, these measures could be examined together again to see if they do again relate to one another, but to take it a step further researchers could examine why people perceive their time the way they do and why people take the actions they do to live or not live a healthy life.

The relationship between actual physical activity partners and perceptions of time was examined. When examining the relationship with the FTP, the positive significant results revealed that those with an expansive perception of time were physically active with friend/acquaintance partners ("A recent acquaintance I met while being active with whom I have much in common" and "A casual acquaintance"), formal partners ("A personal trainer" and "A stranger of my age"), and knowledgeable partners ("An interesting stranger"). According to the SEST, those with an expansive perception of time prefer novel social partners for the purpose of gaining knowledge. Thus, it would make sense that those with an expansive perception of time are physically active with novel social partners. Again, 60% of this sample preferred to be physically active in an organized program and when these partners were examined closely it made sense that these would have been some of the partners that would be present in an organized program. Therefore, it should be no surprise that participants from this sample were involved in physical activity with such partners.

However, when examining the relationship with the TPQ, the positive significant results revealed that those with long-term time perspective were likely to be physically active with family/relative partners ("A close member of the family" and "A younger relative"), friend/acquaintance partners ("A friend who I haven’t seen for a long time"
and "A casual acquaintance"), formal partners ("A personal trainer" and "A stranger of my age"), and knowledgeable partners ("An interesting stranger"). Perhaps family/relative partners appeared here because these individuals have always been health conscious and have grown up in the same type of environment. Thus, they surround themselves with what was most comfortable for them, but at the same time being open to a larger social circle in order to gain the benefits that the family and relatives are unable to provide.

It should be noted that the "Alone" card revealed a negative significant relationship, meaning those with a short-term time perspective were being physically active alone. It has been stated that a short-term time perspective is associated with focusing on the "here and now" and is negatively associated with healthy behaviours. Perhaps these individuals are not concerned with gaining knowledge about physical activity or surrounding themselves with others who can help as this may lengthen the process or they may already know what to do. If they are focused on the "here and now", maybe the best way to deal with being active is to do it on their own and get it over with.

Finally, the relationship between preferred partners in the physical activity setting and actual physical partners was examined. There were significant results for some of the cards that showed if someone preferred to be active with a partner, he/she were. However, some of the significant results could be that the participants preferred not to be active with certain partners and therefore were not. There was not a 1:1 relationship, and that could have been attributed to the structured organized programs that individuals preferred. There is the possibility of others being involved in an organized program that may not be preferred by some people, but the participants would have been physically active with these partners. Nonetheless, those partners could still provide
knowledge that will help others progress. It should be noted that the strongest relationship came from the “Alone” card. This could be due to one’s sense of control. If you prefer to be physically active alone, it is easier to do so than structuring a social environment according to a preference.

3.2.4 Limitations of the study

The first limitation that should be acknowledged is the non-random selection sample of this study. The best efforts were made to get a random sample by first distributing newsletters to all houses in a community. When this was unsuccessful the next step was to go door to door, but through this method the sample ultimately chose itself by the doors that were answered and the people who decided to participate. However, despite this, there was a good distribution across the age groups and gender. It should be noted that when approaching potential participants, there were situations where both the husband and wife completed the study in their home. The best efforts were made to have these two participants complete the study independently. However, there is the distinct possibility that these partners share similar physical activity interests and partners. Therefore, the observations might not be entirely independent. However, it could be argued that each spouse has their own interests when it comes to physical activity and may surround themselves with different social circles in this context. Whatever the case may be, the data was cleaned, examined for outliers, distribution properties, and missing data. The results of this analysis did not exclude any data that was gathered from analysis.

The sample size was also a limitation. Lang and Carstensen (2002) had a sample size of 475, thus a larger sample size might be beneficial. The sample size for Lang and Carstensen (2002) allowed them to perform factor analysis and use factor scores for the
partner categories. However, for my study those factors did not work, and this could possibly be attributed to the different context that was presented. It should be noted that Fredrickson and Carstensen (1990) performed a phone survey on 380 participants to examine the relationship between age and partner preference under unspecified and ending conditions. Perhaps recruiting a larger sample size in the future, including contexts like physical activity, would allow for better comparison with previous SEST research. Furthermore, by increasing the sample size, the covariates may be able to be combined into one group and analyzed, which would allow for comparisons to Lang and Carstensen (2002). Finally, there was an issue when it came to sample size was the power calculation. For this study, a correlation coefficient greater than .205 was needed for the relationship between perceptions of time and partner preference to be significant at an alpha level of .05. In doing this, there was not enough power to detect a significant correlation of .16, for example, which has been significant in previous research (Lang & Carstensen, 2002). Thus, the conclusion as to what partners were related to perceptions of time was more conservative compared to previous research. However, the selection of the criteria of .205 was based on the acceptance of approximately 4% of variance being considered meaningful.

The relationship between individual perceptions of time and partner preference in physical activity was examined, but why the partners were preferred was not addressed. Future research should address why certain partners are preferred both inside and outside of physical activity settings. If we knew why these partners were being chosen, we may be able to develop different ways of creating an atmosphere that would be beneficial to everyone in regard to taking advantage of the benefits that physical activity provides. The different atmospheres may have to be structured around the
different age groups in order to provide an optimal environment for participation. This issue needs to be addressed in order to help guide physical activity and health interventions. To go a step further, different contexts of physical activity could be addressed. For example, certain people may want to be active with preferred partners in an organized program, but may not want to be active with the same people in a non-organized environment such as weight training.

Another issue that arose was the partner cards. Some of the partner cards in this study were modified from Lang and Carstensen (2002) to help them fit into the physical activity context. For example, the partner card “A recent acquaintance with whom I have much in common” was modified to “A recent acquaintance I met while being active with whom I have much in common”. Lang and Carstensen (2002) performed a varimax-rotated factor solution for the social partner cards. The result was five factors that were labelled as the five partner categories previously discussed. However, in this study, the partner cards did not correlate well together. For example, there were three knowledgeable partners that showed a positive significant relationship and one that showed a negative significant relationship. It was undetermined why this occurred, but perhaps it was due to the cards being modified or the unique setting that physical activity provides because of the health benefits.

Another limitation came from the card-sorting tasks. Participants were asked to organize the cards in order from most preferred to least preferred while creating as many piles as they wanted. For the purposes of data analysis, all the cards that were not in the most and least preferred pile were collapsed into one pile regardless of the amount of piles that were in the middle. Depending on the amount of piles created, it can be argued that valuable information is lost when these piles are collapsed. The difference between
the most preferred pile and the second most preferred pile may be small or large. However, this was necessary in order to conduct the analysis. Perhaps finding out why the cards were put into the designated piles could be helpful.

Also, the analysis that examined the relationship between perceptions of time and partner preference was performed differently from what was originally planned. Due to the moderate to unacceptable internal consistencies of the partner preference categories, the relationship was examined using the individual cards instead of the five partner categories. The issue here becomes family-wise error rate or the error rate when making a family of comparisons. An example of this would include running 20 t tests at a \( p = .05 \) on a completely random data set (Vincent, 1999). The researcher would expect that one of the tests would be found significant just by chance. Thus, if the tests were performed on a data set and 1 of the 20 tests produced a significant difference, the researcher would be unable to tell if this result represents the one deviant score out of 20 that is expected by chance alone or if it represents a true difference due to treatment.

Another limitation was the broadness of the physical activity domain. For example, when the participants were given the directions for the card-sort tasks, they were asked to sort the piles with respect to how much they would like to spend their physical activity or exercise time with the partners. The examples for physical activity and exercise time included going for a walk, playing a round of golf, playing tennis, and so on. The participants were encouraged to think of a physical activity or exercise situation in which they felt the most comfortable. The participants were not asked what situation they were thinking about, but the range of activities could be almost endless. It could include things from the simplest activities (i.e., going for a slow walk) to the most complicated sports (i.e., football). There is the possibility that the SEST might work
better with specific physical activity domains such as sport, but without deciphering the types of activities, it is difficult to speculate which specific context the SEST would work best with.

3.2.5 Contribution to the Literature

As was mentioned in Section 1.2.11, there were three things that were identified as potential contributions to the current literature. First, the two time perspectives were examined to see how they relate to one another. The results showed that they were related \( r = .51, p < .05 \). However, it seems as though there were differences when examining each measure with partner preference. A card that showed significant results with the FTP may not have shown the same results with the TPQ and vice versa. The bottom line is that these two measures appear to be looking at time perspective in different ways. Second, previous research has focused on individual attributes (e.g., attitudes, intentions, self-efficacy, etc.), but social factors that influence physical activity should be examined at the group and community level. A potential social factor that could be used to help guide physical activity interventions is time perspective. This study showed that time perspective is related to partner preference in the physical activity setting. When it comes to physical activity intervention development, individual attributes are important to look at, but time perspective has been shown to be helpful when identifying the types of partners that are preferred in the physical activity setting. Thus, examining perceptions of time appear to be an important factor when examining partner preference in physical activity and should be included in future research to help guide physical activity interventions. Finally, this study was primarily examining the basic tenets of SEST in the physical activity setting in order to identify how the theory would hold up in a different domain. There was partial support for the theory and some
of the results were supported in previous research. However, it may be necessary to
perform the same study using the original partner cards in order for comparison to
previous literature. It may be necessary to develop a new system for identifying partners.
This would be especially true if the SEST is to be tested in different domains because
different domains have the potential to have different partners. For example, in this
study, “an attorney” was modified to become a “personal trainer” because of the context.
A personal trainer seemed to be a more realistic formal/service partner in the physical
activity setting when compared to an attorney. Regardless, the SEST was partially
supported in physical activity, but further steps should be examined in order to
determine how SEST fits in other contexts including physical activity.

3.2.6 Take Home Message

The take home message from this study is that perceptions of time appear to be
an important factor to consider when attempting to understand the role of partner
preference in physical activity. Also, it should be noted that regardless of which time
perspective is examined the results were similar.
4.1 SUMMARY AND CONCLUSIONS

With the primary objective of examining the relationship between individual perceptions of time and partner preference in the physical activity setting, I recruited 95 male and female participants who completed the questionnaire package and the card-sorting tasks. There was a good distribution across the age groups and for gender as well.

The results showed that age, physical activity levels, and perceptions of time were related. Specifically, the older one gets the more likely he/she is to be less active, have a limited perception of time, and a short-term time perspective compared to the younger counterparts. The results also showed partial support for the SEST. Perceptions of time were related to partner preference in the physical activity setting. However, some of the relationships were different from what would be predicted by the SEST and have been found in previous research. This could be attributed to the physical activity setting, which might have the potential to change the way people perceive their time because of the health benefits it provides. When accounting for covariates, some of the cards changed from non-significance to significance and vice versa. This was unexpected, but could be because the cards were examined individually instead of in the groups. Furthermore, the results showed that there was a relationship for preferred partners and actual partners in the physical activity setting for some of the cards in that if an
individual wanted to be active with the partner they likely were, but if they did not want to be active with the partner they were not. The actual partners were also related to perceptions of time in that if you had an expansive perception of time you were likely to be active with novel social partners in contrast to those with a limited perception of time. Finally, it was found that the two time perspective measures were related to one another, which translated into a limited perception of time being related to a short-term time perspective and an expansive perception of time being related to a long-term time perspective.

To summarize, perceptions of time appear to be an important factor to consider when trying to understand partner preference in the physical activity setting. However, the SEST had only partial support and may not be as useful in the physical activity setting compared to other social settings that do not have a similar potential to impact health directly. On the other hand, the alternative conceptualization of time (short versus long-term time perspective) proposed by Hall and Fong (2003), which has previously been used in the physical activity context, also showed time perspective was related to partner preference in the physical activity setting suggesting it also has potential when examining time perspective in the physical activity setting.

4.2 RECOMMENDATIONS FOR FUTURE RESEARCH

Based on the results of this study and previous studies that have examined the relationship between perceptions of time and partner preference, it appears that the examination of perceptions of time might be useful for researchers to continue to examine and may help organize thinking about health and physical activity interventions. Thus, it is recommended that future research continue to examine the tenets of the SEST in its current form. However, perceptions of time should also be
examined in different contexts to determine any differences that may result. The physical activity setting provides a unique situation because of potential health benefits, but there are other contexts that could be examined. For example, the home dwelling population could be compared to group home living. Those who live in group homes may have the opportunity to select different partners because of the possibility of different group activities that are provided by the home they live in, whereas home dwellers may not have that same benefit. Examining the relationship in different contexts may allow for researchers to identify that different partners may be selected depending on the context of the situation.

Also, researchers could evaluate the role of different groups in regard to partner preferences. For example, researchers could target a cardiac rehabilitation group. This is a unique situation where individuals are put with a group where all participants are in a similar situation. Are these people being active with one another because they have to or are they comfortable with these people because they are all in the same situation?

Examining the SEST in different contexts will allow for further support or perhaps suggestions for the theory.

In addition, the rationale for choosing particular partners in different situations should be evaluated in the future. It is one thing to determine which partners are being chosen in certain situations, but the next step needs to be taken in order to find out why these partners are being chosen. If researchers can determine why these partners are being chosen, this will help narrow the focus when it comes to designing physical activity and health interventions.

Not only should future research examine why people prefer certain partners, it should examine why people perceive their time as limited or expansive. It could be
beneficial, especially for those who perceive their time as limited. If researchers could pinpoint the reasons for these perceptions, the proper steps could be taken to help design interventions that would help to open their minds to the benefits of living a healthy and prosperous life, which in turn, may change the way they perceive their time.
REFERENCES


APPENDIX A

Demographic Questionnaire and Self-Rated Health Questionnaire
Demographic Questionnaire

1) Age: ____________

2) Gender (please circle): Male  Female

3) a) Please indicate each degree/diploma that you have completed to date.

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4) a) Please indicate any professional qualifications that you have received to date.

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4) b) Please indicate your current job title.

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4) c) If you are unemployed or retired, please indicate your last job title and how long it has been since you held that title?

_______________________________

_______________________________

5) What is your current total household income?  
(Please place an X or check mark beside an answer)

_____ Below $20,000

_____ $20,000 to less than $30,000

_____ $30,000 to less than $40,000

_____ $40,000 to less than $50,000

_____ $50,000 to less than $60,000

_____ Over $60,000

6) What is your current marital status?  
(Please place an X or check mark beside an answer)

_____ Single (never married)  

_____ Separated

_____ Married / Common Law  

_____ Divorced

_____ Living with a partner  

_____ Widowed

7) How many children do you have? ___________________________
Demographic Questionnaire (continued)

8) Who do you currently live with?
(Please place an X or check mark beside all the answers that apply to you)

_____ Alone
_____ Spouse / Common Law
_____ Partner (i.e. boyfriend or girlfriend)
_____ Children (i.e. daughter, son, son-in-law, daughter-in-law)
_____ Other family member
_____ Friend
_____ Parents

_____ Other (please specify) ________________________________

9) Where do you currently live?
(Please place an X or check mark beside an answer)

_____ My own home
_____ In a family member’s home
_____ In an apartment
_____ In a retirement village

_____ Other (please specify) ________________________________
Self-Rated Health Questionnaire

How would you rate your own physical health in relation to the average person your age?

1 2 3 4 5 6 7 8 9 10
Poor Excellent

How would you rate your own mental health in relation to the average person your age?

1 2 3 4 5 6 7 8 9 10
Poor Excellent

(Fung et al., 1999)

Physical Activity Rating (Sallis, Patterson, Buono, & Nader, 1988)

1. Compared to others of your age and sex, how much physical activity do you get?

1 2 3 4 5
Much Less Active Much More Active
APPENDIX B

Godin Leisure-Time Exercise Questionnaire (LTEQ)
Godin Leisure-Time Exercise Questionnaire (LTEQ) (Godin & Shephard, 1985)

Considering a 7-Day period (one week), how many times on the average do you do the following kinds of exercise for more than 15 minutes during your free time (write on each line the appropriate number).

Times Per Week

A) STRENUOUS EXERCISE
(HEART BEATING RAPIDLY)
(i.e. running, jogging, hockey, football, soccer, squash, basketball, cross country skiing, judo, roller skating, vigorous swimming, vigorous long distance biking)

B) MODERATE EXERCISE
(NOT EXHAUSTING)
(i.e. fast walking, baseball, tennis, easy bicycling, volleyball, badminton, easy swimming, alpine skiing, popular and folk dancing)

C) MILD EXERCISE
(MINIMAL EFFORT)
(i.e. yoga, archery, fishing from river bend, bowling, horseshoes, golf, snow-mobiling, easy walking)

2. Considering a 7-Day period (one week), during your leisure time, how often do you engage in any regular activity long enough to work up a sweat (heart beats rapidly)?

OFTEN SOMETIMES NEVER/RARELY
1. ___ 2. ______ 3. _________
APPENDIX C

Self-Administered 7-Day Physical Activity Recall (PAR)
Self-Administered 7-Day Physical Activity Recall (PAR) (Miller et al., 1994)

Now we would like to know about your physical activity during the past 7 days. But first, let me ask you about your sleep habits.

1. On the average, how many hours did you sleep each night during the last five weekday nights (Sunday – Thursday)? __________ hours

2. On the average, how many hours did you sleep each night last Friday and Saturday nights? __________ hours

Now I am going to ask you about your physical activity during the past 7 days, that is, the last 5 weekdays, and last weekend, Saturday and Sunday. We are not going to talk about light activities such as slow walking, light housework, or unstrenuous sports such as bowling, archery, or softball. Please look at this list which shows some examples of what we consider moderate, hard, and very hard activities.

**Moderate Activity (similar to how you feel when walking)**

*Occupational tasks*: 1) delivering mail or patrolling on foot; 2) house painting; and 3) truck driving (making deliveries, lifting and carrying light objects).

*Household tasks*: 1) raking the lawn; 2) sweeping and mopping; 3) mowing the lawn with a power mower; and 4) cleaning windows.

*Sports activities (actual playing time)*: 1) recreational volleyball; 2) ping-pong; 3) brisk walking for pleasure or work (4.83 km/hour or 20 minutes/km); 4) golf, walking and pulling or carrying clubs; and 5) calisthenic exercises.

**Hard Activity (similar to the feeling you have between walking and running)**

*Occupational tasks*: 1) heavy carpentry; and 2) construction work, doing physical labour.

*Household tasks*: 1) scrubbing floors.

*Sports activities (actual playing time)*: 1) tennis doubles; 2) ping-pong; 3) dancing (disco, square, or folk dancing); 4) martial arts; 5) aquacize; 6) touch football; and 7) recreational cross country skiing.
**Very Hard Activity** (similar to how you feel when jogging/running)

*Occupational tasks:* 1) very hard physical labour, digging or chopping with heavy tools; and 2) carrying heavy loads such as bricks or lumber.

*Sports activities (actual playing time):* 1) jogging, aerobics, or swimming; 2) singles tennis; 3) racquetball; 4) soccer; 5) elite volleyball; 6) basketball; and 7) weight lifting.

People engage in many other types of activities, and if you are not sure where one of your activities fits, please ask me about it.

3. First, let’s consider **moderate** activities. What activities did you do and how many hours total did you spend during the **last 5 weekdays** doing these moderate activities or others like them? Please tell me to the nearest half hour.

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<th>Activity (brief description)</th>
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4. Last **Saturday and Sunday**, how many hours did you spend on **moderate** activities and what did you do? (Can you think of any other sports, job, or household activities that would fit into this category?)

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<th>Activity (brief description)</th>
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5. Now let’s look at **hard** activities. What activities did you do and how many total hours did you spend during the **last 5 weekdays** doing these hard activities or others like them? Please tell me to the nearest half hour.

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6. Last **Saturday and Sunday**, how many hours did you spend on **hard** activities and what did you do? (Can you think of any other sports, job, or household activities that would fit into this category?)

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7. Now let’s look at **very hard** activities. What activities did you do and how many hours did you spend during the **last 5 weekdays** doing these very hard activities or others like them? Please tell me to the nearest half hour.

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8. Last **Saturday and Sunday**, how many hours did you spend on **very hard** activities and what did you do? (Can you think of any other sports, job, or household activities that would fit into this category?)

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9. Compared with your physical activity over the **past three months**, was last week’s physical activity more, less, or about the same?

   1. More
   2. Less
   3. About the same
APPENDIX D

Future Time Perspective Scale (FTP)
Future Time Perspective Scale (FTP) (Carstensen & Lang, 1995)

For each of the statements below, indicate your level of agreement or disagreement by using the following scale:


1  2  3  4  5
Definitely not  Unlikely  Neutral  Likely  Definitely

1) Many opportunities await me in the future.
2) I expect that I will set many new goals in the future.
3) My future is filled with possibilities.
4) Most of my life lies ahead of me.
5) My future seems infinite to me.
6) I could do anything I want in the future.
7) There is plenty of time left in my life to make new plans.
8) I have the sense that time is running out.
9) There are only limited possibilities in my future.
10) As I get older, I begin to experience time as limited.

SCORE
APPENDIX E

Time Perspective Questionnaire (TPQ)
Time Perspective Questionnaire (TPQ) (Hall & Fong, 2003)

For each of the statements below, indicate your level of agreement or disagreement by using the following scale:

1 – Disagree very strongly
2 – Disagree strongly
3 – Disagree
4 – Neutral
5 – Agree
6 – Agree strongly
7 – Agree very strongly

1) I have a defined set of long-term goals that I think about when I make decisions in my life.
   Score _____

2) Living for the moment is more important than planning for the future.
   Score _____

3) I have a good sense of what my long-term priorities are in life.
   Score _____

4) I spend a lot more time thinking about today than thinking about the future.
   Score _____

5) Short-term goals are more important to me than long-term goals.
   Score _____

6) People who know me would describe me as a person who plans for the future.
   Score _____

7) I often try to do things that are good for me at the time, even if they are not good for me in the long run.
   Score _____

8) It is really difficult to predict what will happen in the future, so it is important to focus on today.
   Score _____

9) Living in the here-and-now is better than living for the future.
   Score _____

10) I consider the long-term consequences of an action before I do it.
    Score _____
Time Perspective Questionnaire (continued)

For each of the statements below, indicate your level of agreement or disagreement by using the following scale:

1 – Disagree very strongly
2 – Disagree strongly
3 – Disagree
4 – Neutral
5 – Agree
6 – Agree strongly
7 – Agree very strongly

11) Many people are disappointed in life because they sacrificed their daily enjoyment for a better future that never came.
Score _____

12) I spend a great deal of time thinking about how my present actions will have an impact on my life later on.
Score _____

13) “Eat, drink, and be merry, for tomorrow we die” is a good philosophy to follow in life.
Score _____
APPENDIX F

Preferred Context of Exercise
Preferred Context of Exercise

1. What context would you prefer to be physically active in?

____ 1. Alone
____ 2. With friends
____ 3. In an organized program
____ 4. Other (please specify) ________________
APPENDIX G

Practice Card-Sort Task
Practice Card-Sort Task

Instructions:
"On these cards you will find descriptions of different foods that you may run into on a daily basis. Please read each of these cards carefully and think about the food described on the card. Please sort the cards into several piles with respect to how much you would like to have that food. Please begin on the left side with the pile of food that you would like to have the most. Please order those foods that you prefer less or not at all on the right side of the first pile. You must build as many piles as you think necessary."

Food choices presented on the cards:
1) Hamburger
2) Liver
3) Chicken
4) Veal
5) Lasagna
6) Ham
7) Pork Roast
8) Meatloaf
9) Tofu
10) Cauliflower
11) Carrots
12) Asparagus
13) Corn
14) Lima beans
15) Turnip
16) Broccoli
17) Zucchini
18) Egg plant
APPENDIX H

Partner-Preference Card-Sort Task
Partner-Preference Card-Sort Task

Instructions:
"On these cards you will find descriptions of different persons with whom one might have contact with in a physical activity setting. Please read each of these cards carefully and imagine someone described on the card. Please sort the cards into several piles with respect to how much you would like to spend your physical activity time or exercise time (i.e. going for a walk, playing a round of golf, playing tennis, etc.) with that person. Again, please begin on the left side with the pile of those persons with whom you would prefer most to spend time being physically active. Please order those persons with whom it is less or not at all preferable for you to spend being physically active on the right side of that first pile. You must build as many piles as you think necessary."

Partner choices presented on the cards:
Card 1 - “A close member of the family” (Family/Relative)
Card 2 - “A younger relative” (Family/Relative)
Card 3 - “A relative of the same age” (Family/Relative)
Card 4 - “A close friend” (Friend/Acquaintance)
Card 5 - “A sympathetic acquaintance” (Friend/Acquaintance)
Card 6 - “A recent acquaintance I met while being active with whom I have much in common” (Friend/Acquaintance)
Card 7 - “A friend who I haven’t seen for a long time” (Friend/Acquaintance)
Card 8 - “A casual acquaintance” (Friend/Acquaintance)
Card 9 - “A medical doctor” (Formal Partner)
Card 10 - “A personal trainer” (Formal Partner)
Card 11 - “The mayor of my residential district” (Formal Partner)
Card 12 - “A stranger of my age” (Formal Partner)
Card 13 - “An author of a sport or exercise book that I have read” (Knowledgeable Partner)
Card 14 - “A famous athlete or fitness icon who I admire” (Knowledgeable Partner)
Card 15 - “An interesting stranger” (Knowledgeable Partner)
Card 16 - “A clergy person (i.e. priest, rabbi, etc.)” (Knowledgeable Partner)
Card 17 - “A recent acquaintance I met while being active with whom I have nothing in common” (Controversial Partner)
Card 18 - “Someone I know well but do not like” (Controversial Partner)
Card 19 - “Alone”
APPENDIX I

Actual Exercise Partner Card-Sort Task
Actual Exercise Partner Card-Sort Task

Instructions:
“On these cards you will find descriptions of different persons with whom one might have contact with in a physical activity setting. Please read each of these cards carefully and imagine someone described on the card. Please sort the cards into several piles with respect to who you are most likely to (actually) spend your physical activity time or exercise time (i.e. going for a walk, playing a round of golf, playing tennis, etc.) with currently. Again, please begin on the left side with the pile of those persons with whom you are most likely to (actually) spend time being physically active with currently. Please order on the right side with the pile of those persons with whom you are most likely to have spent time being physically active with currently is less or not at all. You must build as many piles as you think necessary.”

Partner choices presented on the cards:
Card 1 - “A close member of the family” (Family/Relative)
Card 2 - “A younger relative” (Family/Relative)
Card 3 - “A relative of the same age” (Family/Relative)
Card 4 - “A close friend” (Friend/Acquaintance)
Card 5 - “A sympathetic acquaintance” (Friend/Acquaintance)
Card 6 - “A recent acquaintance I met while being active with whom I have much in common” (Friend/Acquaintance)
Card 7 - “A friend who I haven’t seen for a long time” (Friend/Acquaintance)
Card 8 - “A casual acquaintance” (Friend/Acquaintance)
Card 9 - “A medical doctor” (Formal Partner)
Card 10 - “A personal trainer” (Formal Partner)
Card 11 - “The mayor of my residential district” (Formal Partner)
Card 12 - “A stranger of my age” (Formal Partner)
Card 13 - “An author of a sport or exercise book that I have read” (Knowledgeable Partner)
Card 14 - “A famous athlete or fitness icon who I admire” (Knowledgeable Partner)
Card 15 - “An interesting stranger” (Knowledgeable Partner)
Card 16 - “A clergy person (i.e. priest, rabbi, etc.)” (Knowledgeable Partner)
Card 17 - “A recent acquaintance I met while being active with whom I have nothing in common” (Controversial Partner)
Card 18 - “Someone I know well but do not like” (Controversial Partner)
Card 19 - “Alone”
APPENDIX J

Participant Newsletter
The College of Kinesiology at the University of Saskatchewan wishes to keep the community notified of current research that is being conducted. This newsletter is a brief summary of some of the research that is about to take place. If you are interested in being part of the study, please contact the phone number provided below.

**BRIEF BACKGROUND** – Canada’s population is at its oldest ever and rates of physical activity have been shown to decrease with age. Examining perceptions of time provides researchers with a new theme that can be used to help organize thinking about health and physical activity interventions. It is important to examine social factors because they are important determinants for physical activity involvement.

**PURPOSE OF THE STUDY** – The purpose of this study is to examine the relationship between perceptions of time and partner preferences in physical activity.

**PROCEDURES INVOLVED** – Attend 1 one-on-one session (approx. 30-45 min.) where you will have the study explained, you will sign consent, and then complete a questionnaire package followed by two card-sorting tasks.

**PARTICIPANT CRITERIA** – Participants need to be 18 years of age or older and a community home dweller (not living in an assisted residence – nursing home).

**PARTICIPANT INCENTIVE** – You will be contributing important information to the research community. You will be provided with a full tour of the new Physical Activity Complex at the U of S and receive a ticket to a Huskie game for an allotted weekend (approximate value $8-$10).

**CONTACT INFORMATION**

Scott Compton  
(306) 966-1123  
*Use from 9am to 4pm

College of Kinesiology  
(306) 244-7321  
*Use from 6pm to 9pm

**FUNDING PROVIDED FOR THIS STUDY**

Funding has been provided as part of Community Alliance for Health Research (CAHR) – Canadian Institute of Health Research (CIHR) ‘Saskatoon In Motion’ Research Grant.
APPENDIX K

Door to Door Script
Hello my name is Scott Compton.

I am a graduate student in the college of Kinesiology at the University of Saskatchewan and a resident of this area (Buena Vista area).

We are located in the new Physical Activity Complex (PAC). Have you been to the new building at all?

I am recruiting participants for my master’s thesis and my goal is to recruit all my participants from around this neighborhood because I feel this area provides me with a representative sample from the community.

Basically the study is examining the relationship between how people perceive their time left in life and how that influences the partners they would prefer to be physically active with.

The study includes a one time only session with a short questionnaire followed by a couple of card sorting tasks that address partner preference.

The whole thing takes about 30-45 minutes to complete and it is important to note that all information is confidential and I will be the only one to handle it.

There are some incentives involved with the study and they include a full tour of the new Physical Activity Complex and an adult ticket to Huskie game for an allotted weekend in the fall and a cash draw for $200.

We can set up an appointment at a time and location that is most convenient for you or we could do it right now. Which would you prefer?
APPENDIX L

Ethics approval
The University of Saskatchewan Behavioural Research Ethics Board has reviewed the Application for Ethics Approval for your study Perceptions of Time and Partner Preference Across Adulthood: Examining Socio-Emotional Selectivity Theory in Physical Activity" (03-1344).

1. Your study has been APPROVED.

2. Any significant changes to your proposed method, or your consent and recruitment procedures should be reported to the Chair for Committee consideration in advance of its implementation.

3. The term of this approval is for 5 years.

4. This approval is valid for one year. A status report form must be submitted annually to the Chair of the Committee in order to extend approval. This certificate will automatically be invalidated if a status report form is not received within one month of the anniversary date. Please refer to the website for further instructions http://www.usask.ca/research/behavrse.shtml

I wish you a successful and informative study.

Dr. David Hay, Acting Chair
University of Saskatchewan
Behavioural Research Ethics Board

DH ck
APPENDIX M

Consent Form
UNIVERSITY OF SASKATCHEWAN
Informed Consent Form

You are invited to participate in a study entitled: *Perceptions of Time and Partner Preference Across Adulthood: Examining Socio-Emotional Selectivity Theory in Physical Activity*. Please read this form carefully and feel free to ask any questions.

**Researcher(s):**
Scott G. Compton  
College of Kinesiology  
Dr. Kent C. Kowalski  
College of Kinesiology  
(306) 966-1079  
Email - kent.kowalski@usask.ca

**Purpose and Procedure:** The purpose of this study is to examine the relationship between perceptions of time and partner preference in physical activity.

The study will consist of 1 one-on-one session, of approximately 30 to 45 minutes, where you will be required to fill out a questionnaire package and complete two card-sorting tasks. The sessions will be conducted at the new Physical Activity Complex at the University of Saskatchewan or at a location and time of your convenience and will be lead by a graduate research student.

The questionnaire package will consist of four sections. You will be asked to respond to questions about demographics (i.e. age, gender, etc.), physical activity involvement (i.e. leisure time activities), and perceptions of time.

Once you have completed the questionnaire package you will be asked to complete two card-sorting tasks. The card-sort tasks will consist of receiving eighteen cards with eighteen different social partners on them. You will be asked to order the cards for the preferred partner card-sort task and the actual physical activity partner card-sort task. For example, the instructions from the preferred partner card-sort task will have you organize the cards in order from most to least preferred partner that you would prefer to be physically active with. Once these card-sort tasks have been completed, you are finished with the study.

**Potential Risks:** There are no physical or psychological risks in this study. You have the right to refuse to answer any questions that you are not comfortable with.

**Potential Benefits:** Your participation may help to develop an understanding of perceptions of time and how this relates to the partner preferences in the physical activity setting. Also, the study may provide helpful information in order to develop effective ideas for physical activity interventions aimed at examining people's perception of time left in life across the adult life-span. These benefits are not guaranteed through participation in this study.

**Storage of Data:** All research material (consent forms, questionnaires, card-sort tasks) will be securely stored in a locked filing cabinet in the office of Dr. Kent
Kowalski at the University of Saskatchewan for a minimum of five years as per University requirements.

Confidentiality: The data from this study will be written as part of the requirement of a Master’s thesis in Kinesiology. It is possible that the data may also be published and/or presented at conferences. However, the confidentiality of each participant is extremely important. The data will be kept in aggregate form so that it will not be possible to identify individuals. Moreover, the consent forms will be stored separately from the questionnaires and card-sort task results so that it will not be possible to associate a name with any given set of responses. Also, questionnaires and card-sorting task results will also be stored in a randomly ordered pile so that the researcher cannot identify the names on the consent forms with the questionnaires and card-sorting tasks. Participants will be identified by age and sex on the questionnaire package only. The questionnaire package and card-sorting tasks will be labeled with participant numbers and not names; therefore, participants will be asked not to put their name or other identifying information on the questionnaire or card-sorting results.

Right to withdraw: You may withdraw from the study for any reason, at any time, without penalty of any sort, including current or future participation in this or any other study. If you withdraw from the study at any time, any data that have contributed will be destroyed upon request.

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 at the numbers provided above if you have questions at a later time. A summary newsletter that includes the results will be distributed to the same houses as the recruitment newsletter and any subsequent publications will be available for viewing upon request. Any questions regarding your rights as a participant may be addressed to the University of Saskatchewan Behavioral Sciences Research Ethics Board through the Office of Research Services (966-4053). The proposed research study was reviewed and approved on ethical grounds by the University of Saskatchewan Behavioural Research Ethics Board on December 24, 2003.

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Consent to Participate: I have read and understood the description provided above; I have been provided with an opportunity to ask questions and my questions have been answered satisfactorily. I consent to participate in the study described above, understanding that I may withdraw this consent at any time. A copy of this consent form has been given to me for my records.

Participant's name (please print) ____________________________

Participant's signature ____________________________

Researcher's name (please print) ____________________________

Researcher's signature ____________________________

Date ____________________________