SOCIAL SUPPORT AS A STAGE SPECIFIC CORRELATE OF PHYSICAL ACTIVITY

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ABSTRACT

Research has identified five main types of social support for physical activity. Exercisers' social support needs have also been shown to fluctuate, so specific types of support may be more appropriate for exercisers at different stages of behaviour change. Using the five stages of the Transtheoretical Model, the primary purpose of this study was to determine whether significant differences existed between received and ideal (desired) social support relative to exercise stage for each individual. A secondary purpose was to identify the received and ideal (desired) types of social support by stage. The study sample included 210 individuals ranging in age from 19 to 48 years (*M*=34.44, *SD*=9.94). Participants completed an online survey that included close- and open-ended questions. Chi Square analyses revealed a significant relationship between participants' perceived current support and desired/ideal support. Additional Chi Square analyses demonstrated that the source of current support was significantly related to the desired source of support for the participants' exercise behaviour. Companionship and emotional support were identified as the two primary types of ideal (desired) social support for exercise behaviours, while exercise stage was not found to be significantly related to ideal (desired) types of social support.

Keywords*:* social influence, exercise, Transtheoretical Model

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INTRODUCTION

Data indicate that less than 10% of U.S. adults are meeting physical activity guidelines (Tucker et al., 2011). In an effort to better understand physical activity behaviour, the Transtheoretical Model (Prochaska & DiClemente, 1983) has been used to categorize individuals into stages of physical activity behaviours and offers specific interventions to aid individuals with adoption and adherence of physical activity. Unfortunately, the success of these interventions in the promotion of physical activity and adherence has yet to be adequately demonstrated (Marshall et al., 2004*).*

One potential answer to our epidemic of inactivity may be found in the amount, type and source of social support we receive for physical activity. Indeed, social support has been shown to improve adoption and adherence rates of physical activity (e.g., Duncan et al., 1993; Lytle et al., 2009). For example, a study of 530 postpartum women investigating beliefs, barriers and behaviours regarding physical activity found that one of the most common enablers for physical activity was partner support. While the women in the study reported physical activity as important at three and twelve months postpartum, they also reported time and childcare as the two most significant barriers to physical activity. During this specific phase of life, participants recognized the importance of support for their physical activity behaviours (Evenson et al., 2009). However, Cutrona and Russell (1990) urged that social support is beneficial only when the type of support offered is consistent with the type of support needed.

Social support is not just a single entity but, rather, a complex arrangement of several specific types. Research has identified five main types of social support including instrumental support, emotional support, informational support, companionship support and validation (Wills & Shinar, 2000) with each playing a key role in reinforcement for exercise.

Instrumental support includes tangible support. In exercise specific terms, this could include transportation to a workout facility or spotting a resistance exercise. Providing childcare or material aid for an exerciser would also be examples of instrumental support. Emotional support is defined as extending/showing care and empathy toward another person. For physical activity, this may include praise and/or encouragement for effort and behaviour. For example, being empathetic toward a person who is sore from weight training or giving praise for exercise would be considered examples of emotional support. Informational support occurs through advice and suggestions; for example, a medical doctor directing a patient to exercise in order to reduce blood pressure is an example of informational support. Trainers, teachers and coaches who provide information, ideas or feedback are other potential sources of informational support for exercise. Companionship support refers to the presence of others doing similar tasks. An exercise partner reflects this kind of support. This type of support could also be generated within an exercise class. Spouses, friends or coworkers exercising together exemplify companionship support. Finally, validation is a comparison between oneself and others relative to a task or behaviour. An injured athlete, engaged in rehabilitation with another athlete of similar circumstance, may be empowered by the experiences they share and the obstacles they

both must overcome. Another example might be a runner increasing mileage, because he/she knows someone training equally hard for an upcoming marathon.

The influence of social support has been demonstrated in a variety of ages, cultures and communities (Resnick et al., 2002; Shores et al., 2009). In fact, a meta-analysis of social influence and physical activity identified a positive influence on physical activity behaviour including adherence and compliance (Carron et al., 1996). Later, in a large-scale study, a telephone survey of nearly 3,000 minority women aged 40 years and older found that, regardless of race/ethnicity, individuals with lower support were more sedentary than those with higher support. Specifically, women with greater amounts of emotional support were twice as likely to complete 300 minutes of physical activity as those receiving smaller amounts or no emotional support (Eyler et al., 1999). Emotional social support also proved to be the strongest predictor of vigorous leisure time physical activity in a sample of 363 college students (Okun et al., 2003).

Leslie et al. (1999) surveyed thousands of Australian college students concerning physical activity levels. Sufficient activity was defined as expending 800kcal/wk or 30 minutes of moderate physical activity per day. Results indicated that sufficient activity levels were reported 15−20% more frequently by men and women who were receiving high amounts of social support from family and friends than those receiving low levels of social support from family and friends.

Finally, a study of adults in an 18-week exercise programme found that perceptions of emotional support increased adherence, while perceptions of instrumental support did not affect adherence. Furthermore, emotional support was a greater predictor of adherence near the completion of the programme than in the beginning (Duncan et al., 1993). This fluctuation in the relationship between social support and the exercisers' needs suggests an association between social support and exercise stage.

The dynamic nature of social support would appear to dovetail nicely with the Transtheoretical Model, which is an integrative model originally developed to better understand smoking behaviour (Prochaska & DiClemente, 1983; Prochaska et al., 1992; Prochaska & Velicer, 1997). The model asserts that behaviour follows through a gradual, linear progression of five stages. Support for use of the model in exercise settings has been documented in several stage-matched health behaviour interventions (Kim et al., 2004; Marshall et al., 2003; Pekmezi et al., 2010; Steptoe et al., 2001; Woods et al., 2002). In one study, 45 Korean participants with type II diabetes were randomized to either a control group in which participants were given general information, or an intervention group that was provided with a stage-matched intervention. After three months, individuals in the intervention group demonstrated significant improvements in exercise behaviour while the control group did not demonstrate equivalent improvements (Kim et al., 2004).

Unfortunately, while relatively short-term improvements in physical activity have been shown through stage-matched interventions, long-term adherence has yet to be consistently demonstrated (Adams & White, 2003). As social support has been directly linked to stage progression (Resnick & Nigg, 2003), the implementation of stage specific

social support may be one way to address the chronic adherence limitations of the Transtheoretical Model. To date, surprisingly few studies have investigated the types of social support which are most influential on physical activity and, furthermore, have failed to include all five types of support in the methodological design. Even less is known regarding specific types of social support relative to an individual's stage of exercise. The current study aimed to fill the void in the literature regarding stage specific social support for exercise by investigating the types of support received and desired by individuals who are in different stages within the Transtheoretical Model. Specifically, the primary purpose of this study was to determine whether significant differences existed between received and ideal (desired) social support relative to exercise stage for each individual. A secondary purpose was to identify the received and ideal (desired) types of social support by stage. This purpose was exploratory with no previous research to guide a hypothesis. Additionally, it was hypothesized that participants would report the same type(s) of desired social support within each stage. The final purpose was to identify the received and ideal (desired) sources of social support. As with prior research by Leslie et al**.** (1999) and Thanakwang (2002), family and friend support would be ideal.

METHOD

Participants and Procedures

Participants included 210 individuals ranging in age from 19 to 48 years (*M*=34.44, *SD*=9.94, *Males, n*=71, *Females, n*=139). U.S. adults of all activity levels were targeted, and as such, participants had to be at least 18 years of age to be included in this study.

Recruitment was conducted through a social networking website that contained a link to a web-based survey. Due to the popularity of the site, Facebook was chosen to use for recruitment, where a link was posted to the online survey based out of Survey Monkey. Several Facebook networking tools were used for advertisement of the survey link including statuses, news feeds, wall posts and event invitations. The link was made publicly available to all social networks within Facebook. The study protocol was approved by the Southern Illinois University Edwardsville Institutional Review Board.

Measures

In addition to a demographic questionnaire that assessed gender, age, height, weight, race and geographic location, participants were asked to answer a question adapted from the Exercise Stages of Change-Short Form (Reed et al., 1997) to determine their current exercise stage. Reports of simple measures have indicated acceptable test-retest reliability ($k > 0.78$) (Marcus et al., 1992).

Types of social support were listed in a table format with descriptions and examples of each of the five types (informational, instrumental, emotional, companionship and validation). The primary type of currently received social support for physical activity was determined by selection from a list of the five options. Other types of currently received social support were assessed in the same way, as was the primary ideal (desired) social support. Sources of social support were assessed relative to the type received and the

type desired (ideal). Options included family, friends, coworkers, significant others, doctors, personal trainers and other. See Appendix A for the social support survey.

Open-ended questions included at the end of the survey aimed to further assess how current social support affected participants' exercise behaviour, and why they selected the certain type of social support as most beneficial for their exercise behaviour. The questions were as follows: "How do you feel the current type of social support you are receiving affects your exercise behaviour?" and "What do you believe about this type that is or would be significant to improving your exercise behaviour?" These questions were developed via a pilot survey.

Data Analysis

Closed-end data were analysed using a Chi Square for Independence. The Chi Square was used to determine whether two variables were interdependent. Additionally, Cramer's *V* was reported as a measure of effect size (Gravetter & Wallnau, 2009). In an effort to gain additional understanding of individuals' expressions of social support beyond the insight provided by descriptive statistics and Chi Square, participants' responses to open-ended questions were analysed inductively (Patton, 2002). Participants' expressions were coded in order to identify patterns and consistencies. These data, patterns and consistencies were then considered in reference to the Transtheoretical Model of Exercise Behaviour (Prochaska & DiClemente, 1983; Prochaska et al., 1992; Prochaska & Velicer, 1997).

RESULTS

Close-ended Results

Distribution of participants across the Transtheoretical Model stages were as follows: precontemplation (n=5, 2.4%); contemplation (n=13, 6.1%); preparation (n=25, 11.8%); action (n=29, 13.7%) and maintenance (n=140, 66.0%). It should be noted that, due to insufficient cell sizes, neither the precontemplation nor the contemplation data were included in Chi Square analyses.

Current support versus desired support. The Chi Square analysis examining the relationship between participants' perceived current support and desired/ideal support was significant, χ^2 (16, *N*=193)=123.89, *p*<.05, indicating that the type of social support received is related to the type desired for exercise behaviour. Specifically, most people's desired type of support is their most commonly received type of support, as illustrated by the observation of higher cell frequencies on the diagonal of the table. Additionally, an effect size was computed (Cramer's *V*=.21), indicating that the strength of the relationship between the observed frequencies and the expected frequencies for the two variables was medium-sized. These findings are presented in Table 1.

Table 1. Ideal support and current support crosstabulation across stages

Ideal	Current						
	Instrumental	Emotional	Informational	Companionship	Validation	χ^2	*df*
Instrumental	6	1	1	1	3	123.89*	16
Emotional	1	19	3	11	8		
Informational	0	5	4	1	5		
Companionship	3	5	4	59	9		
Validation	0	3	1	5	13		

Note. N=171; *p*<.05

Type of support and exercise stage. Chi Square results indicated that there were no significant relationships between the type of support χ^2 (8, *N*=171)=5.90, *p*>.05, or desired support χ^2 (8, *N*=171)=4.13, *p*>.05 and exercise stage. These findings are presented in Table 2 and Table 3, respectively.

Table 2. Exercise stage and current support crosstabulation

Stage	Support						
	Instrumental	Emotional	Informational	Companionship	Validation	χ^2	*df*
Preparation	1	5	3	5	6	5.90	8
Action	2	5	1	14	4		
Maintenance	7	23	9	58	28		

Note: N =171;*p*<.05

Table 3. Exercise stage and ideal support crosstabulation

Stage	Support						
	Instrumental	Emotional	Informational	Companionship	Validation	χ^2	*df*

Preparation	2	4	2	11	1	4.13	8
Action	2	5	3	14	2		
Maintenance	8	33	10	55	19		

Note. N=171; * =*p*<.05

Source of support. A Chi Square analysis, χ^2 (36, *N*=171)=113.56, *p*<.05, demonstrated that the source of current support was significantly related to the desired source of support for the participants' exercise behaviour. Therefore, participants are predominantly receiving support for their exercise behaviour from the source desired. This is again highlighted by the higher cell frequencies along the diagonal of Table 4. For example, 52 of the 75 individuals who identified friends as their ideal source of social support were in fact receiving support from friends. Additionally, a moderate effect size was computed (Cramer's *V*=.14) indicating that there was a medium degree of relatedness between current and ideal source of support. Table 4 illustrates all the observed frequencies.

Table 4. Current source of social support and ideal source of social support crosstabulation

Current	Ideal								
	Parent/ Guardian	Friend	Coworker	Doctor	Trainer	Significant Other	Other	χ^2	*df*
Parent/ Guardian	1	4	0	0	0	2	0	113.56*	36
Coworker	1	2	1	0	0	3	0		
Doctor	0	0	0	0	0	1	0		
Trainer	0	1	0	0	6	3	0		
Significant Other	0	7	1	1	2	25	3		
Other	0	9	1	1	3	6	8		

Note. N=171; * = p<.05

Due to the high number of cells with zero frequencies and to allow for a more meaningful interpretation, the data set was also condensed to the two most common sources: friends and significant others with an "other" category. The "other" category combined frequencies

for parent/guardian, coworker, doctor, trainer and the original other category. A Chi Square analysis of the condensed data set, χ^2 (4, *N*=171)=44.14 *p*<.05 reinforced that the source of current support was significantly related to the desired source of support for the participants' exercise behaviour. The strength of this relationship is illustrated by a moderate effect size (Cramer's *V*=.36). These findings are presented in Table 5.

Table 5. Condensed current source of social support and ideal source of social support crosstabulation

Current	Ideal				
	Friend	Significant Other	Other	χ^2	*df*
Parent/ Guardian	4	2	0	113.56*	36
Coworker	2	3	0		
Doctor	0	1	0		
Trainer	1	3	0		
Significant Other	7	25	3		
Other	9	6	8		

Note. N=171; * = *p*<.05

Open-ended Results

Nearly 90% of participants provided responses to open-ended questions. Using inductive analysis (Patton, 2002), open-ended responses were analysed and emerging themes were identified across stages and across current and ideal support. Question two asked, "How do you feel the current type of social support you are receiving affects your exercise behaviour?" Question five asked, "What do you believe about this type that is or would be significant to improving your exercise behaviour?" The two major themes that emerged from the data were "accountability" and "motivation." Participants consistently mentioned these factors regardless of exercise stage or whether the support was currently received or listed as the ideal source.

Accountability and motivation. Webster's dictionary defines accountability as an obligation or willingness to accept responsibility, while motivation refers to incentive or drive. Participants in this study seemed to refer to exercise as the obligation or responsibility, and social support as the incentive or driving force. For example, concerning current support in the maintenance stage, one individual responded, "I continue to run because my brother pushes me to do it and we have to do it because we sign up and race together." Other more explicit responses from across stages include: "Keeps me motivated and accountable," "It assists me in staying motivated," "I feel accountable to someone, which keeps me motivated," "Holds me accountable," "Improves motivation," "It helps me get motivated to do it as well as enjoy the activity more." Ultimately, it seemed that the participants in this study were more likely to execute the exercise (especially when they "Don't feel like it" or the situation is not ideal to exercise), when they perceived an obligation to someone else. This finding seems to reinforce the necessity of social support for exercise behaviour by means of increasing accountability and motivation for the behaviour, which have been linked to increased participation.

Stage consistency. As mentioned earlier, participants consistently expressed accountability and motivation as significantly impacting their exercise behaviour regardless of the reported exercise stage. Consider the following words from an individual in the preparation stage:

> This support makes me have to keep a commitment and stick with it. As of right now, I do ab workouts on my own time, but I really do not enjoy cardio so having friends that consistently ask me to do physical activities makes it so that I have to eventually say yes and get out of the house. Also with nice weather approaching I will want to be out and about more which means I won't have an excuse to say no to my friends.

Along with the previous example of the runner who ran with his brother, both individuals explicitly identify people in their lives who hold them accountable which serves as motivation for exercise through accountability to friends and family. Effectiveness of current support responses and potential of ideal/desired support responses are directly linked and can be demonstrated through examples such as this response by an individual in the action stage, "Certainly motivates, especially working out together," which parallels well with a response related to ideal support by an individual in the action phase, "If my spouse held me accountable, I would be more likely to be consistent and try to please him by going and making progress."

DISCUSSION

Literature has consistently demonstrated the critical relationship between social support and physical activity (Duncan et al., 1993; Eyler et al., 1999; Leslie et al., 1999; Okun et al., 2003; Resnick et al., 2002; Shores et al., 2009; Thanakwang, 2009). Additionally, stage-matched exercise interventions based on the Transtheoretical Model have been shown to be more effective than general interventions for exercise behaviour (Kim et al., 2004; Marshall et al., 2003; Pekmezi et al., 2010; Steptoe et al., 2001; Woods et al., 2002). However, research has not yet demonstrated the appropriateness of specific types of

social support integration into these stage-matched interventions, although time sensitive fluctuations for certain types of social support have been documented (Duncan et al., 1993).

The purpose of this study was to determine if differences existed between received and ideal social support relative to exercise stage. In addition, the study aimed to identify the types of social support exercisers were currently receiving and what they desired in each stage. Lastly, sources of current and ideal social support for exercise behaviour were examined. It was hypothesized that there would be a significant difference between the type of social support received and the desired types of social support at each stage. This hypothesis was not supported by the data with the results indicating a significant relationship between the type of support the participants were receiving and the type of support desired.

Additionally, it was hypothesized that participants would report the same type of social support desired within each stage but different across stages. This hypothesis was partially supported, however, in that ideal support was found to be similar both across and within stages. Taken together, results indicated that there were significant relationships between current received social support and ideal support, yet there was no distinction in currently received or ideal preference by stage. This conclusion, however, only accounts for three of the five exercise stages due to low frequencies in the first two stages. More Chi Square analyses identified significant relationships between current and ideal sources of social support independent of exercise stage.

A Chi Square analysis demonstrated a significant relationship between the type of social support individuals were currently receiving and the type of social support individuals desired. By rank ordering the types of support within a crosstabulation table, this result was reinforced indicating support currently received was most frequently identified as ideal (desired) support. Companionship support was most frequently reported as an ideal type of support and was most frequently reported across all current types of support. Emotional support was reported as an ideal type of support second most frequently across all stages. For example, out of 38 individuals who reported validation support as the primary type of social support currently received, thirteen individuals reported validation as ideal, nine reported companionship as ideal, eight reported emotional as ideal, five reported informational as ideal and three reported instrumental as ideal. Overall, individuals desire social support, particularly in the form of companionship. Open-ended responses provide validity to this conclusion. One individual responded to the significance of the reported ideal type of social support improving exercise behaviour by stating, “Having someone to share the experience with.” Other participants reported, “Companionship while exercising,” “It gives me a reason to get out of the house and interact with people,” “Having someone I can talk to daily,” “Simply having someone out there with me,” “Doing activities together,” “It makes me feel good because I am spending time with my partner” and “I would like to pair it with building relationships in order to be more consistent and happier.” These responses indicate the desire to be social, therefore including social support in exercise is critical to meet that need.

There were no significant associations in either current or ideal social support between exercise stages. Thus, it is reasonably clear, within the latter three stages of the Transtheoretical Model, that the exercise stage itself was not significantly related to current or ideal support. The dominant frequency for current support across all three stages fell into the companionship support, where 45% of individuals reported receiving this type of social support. The dominant frequency for ideal support across all three stages also fell into companionship support, where almost 47% of individuals reported desiring this type of social support. Also, emotional support was reported as ideal support second most frequently across all three exercise stages. This indicates that, regardless of stage, the majority of individuals' desire companionship support the most, with emotional support indicated as a secondary ideal form.

Additionally, Chi Square analyses indicated that individuals' desire social support from the person from whom they are currently receiving the support. Individuals receiving support from significant others would ideally prefer to be receiving support from that source. The same finding exists for friends and trainers. Further inspection of the frequencies reveals the two dominant frequencies across all ideal sources were friends and significant others. This supported our hypothesis. These frequencies may potentially be due to the amount of time spent with these individuals or the level of intimacy between these sources and the participants. Indeed, family is comprised of intimate, time intensive individuals and has been shown to be the most beneficial type of social support for exercise behaviour (Wagner et al., 2004). The themes that consistently emerged from the open-ended responses were "accountability" and "motivation." Considering the three stages examined, two of the three include individuals not yet exercising or just beginning exercise so extrinsic motivation such as accountability may be necessary. Even individuals who reportedly have been exercising over six months may not have developed intrinsic motivation to consistently exercise. The majority of responses were based on extrinsic motivation from others or accountability to others. "It is hard to motivate myself without the support of my partner and my workout group!" "It's hard to find the motivation when your significant other is sleeping in and not heading out the door with you." "Without companionship, it becomes far easier to blow off workouts." "It would make it easier to have someone there to motivate me to work out, rather than having us go at separate times." All of these individuals indicate being motivated by a person other than themselves.

The last quote captures the overall sentiment the participants expressed regarding accountability and motivation. The participants in this study frequently discussed the significance of making exercise easier (or harder to avoid). "Makes me more accountable. Easier to say no when it is just your workout." "I won't have an excuse to say no to my friends." "It's easier to go for a jog when somebody else is with me." All of these responses indicate that social support makes it more difficult to avoid exercise

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The participants also mentioned the ability of social support to override personal adverse feelings toward exercise. Responses like: "Helps get me to workout on days that I might not really feel like exercising," "Keeps me going when I don't feel like it," "It helps you get out even if you don't feel like it," and "Make it through days/periods that may be rough"

illustrate this. In these expressions, participants describe how their lack of motivation is combated by social support.

Participants further described how social support impacted the intensity or duration of their exercise behaviours. They mentioned things like: “Having someone to go with would make me work harder as well.” “Having someone with me makes me work hard, train longer and more often.” “I exercise for a longer period of time with a group class than I do individually.” “Helps me to push harder at any point during my workout.” These responses seem to indicate that social support can help increase frequency of exercise, but it also has the capability to increase the exercise dose (frequency, intensity, time and type). This finding seems to indicate that for these people, there may be a relationship between the importance of social support for exercise behaviour or exercise adherence.

The significance of social support was evident at all three stages evaluated in this study. The consistency of the responses across stages reinforces the lack of stage significance for type of social support. This sample indicates that the variance in type of social support across exercise stages is not the basis of interest. Instead, it is the accountability and motivation provided by the social support that should be the focal point of exercise behaviour change.

Unfortunately, conclusions cannot be made across the entire continuum of the stages due to the low frequencies in precontemplation and contemplation stages. Although robust, Chi Square analyses require higher numbers of responses than provided in those two stages to maintain power for the statistic. This limitation did not, however, affect the ability to adequately examine the relationship between current and ideal social support across the three remaining stages, nor did it affect the ability to adequately examine the relationship between source of current support and source of ideal support. The explanation behind the unusual distribution of responses by stage could be due to the participants’ reluctance to report having little or no intention to exercise, the type of individuals likely to voluntarily respond to surveys regarding exercise behaviour, and/or the internet-based social networks from which the samples were gathered.

Expanding on the latter explanation for the unusual distribution of responses, the recruitment of participants through social networking websites may be a limitation. Using a social networking website as the base for posting the survey link assumes several things, one being that the network is generalizable to the general population. Although the website used in this study boasts over 500 million active users, many individuals do not participate in social networking via the internet. Another issue with this recruiting technique is that the individuals most likely to respond are those within the networks of the individual(s) posting and advertising the link. Thus, if the individuals posting and advertising the link are active individuals themselves, their network may be more active than the general population. Furthermore, individuals who are currently active are likely more apt to respond to an exercise survey than individuals who are inactive. Although recruitment announcements specifically stated “adults of all activity levels”, motivation to complete the survey is potentially different between adults of differing activity levels. Ultimately, sampling bias is

an inherent limitation of many research studies that attempt to represent an entire and diversified population.

Another potential limitation of the current study was the failure to including a “no support” option for current social support. This is a plausible explanation for the limited number of responses from the first two stages of exercise behaviour. Dropout within the study happened after participants responded to the Exercise Stages of Change-Short Form. Those individuals who reported no exercise behaviour may have determined that there was no need to continue to complete the survey regarding support for exercise since they considered themselves inactive. Being required to indicate a specific type of support while receiving none may explain the relatively few responses from individuals in the precontemplation and/or contemplation stages. Two individuals currently exercising from the maintenance stage answered the first open-ended question that asked how current support affected exercise behaviour by simply reporting, “indifferent” and “not too much.” One individual not currently exercising from the contemplation stage responded to the same question by saying, “infrequent therefore ineffective.” Although these participants did not discontinue the survey because of these feelings, others may have done so.

This study has identified companionship and emotional support as the two consistent types of ideal social support for exercise behaviours. Since exercise stage was not found to be significantly related to ideal type of social support, exercise interventions should include companionship and emotional support in all stages. For example, exercise prescriptions could include partner or group activities where individuals consciously encourage and empathize with each other. Interventions by mail could include suggestions of physical activities that incorporate more than one person and that include companionship and emotional support, which have been identified as the two types of support that foster accountability and motivation imperative for exercise adherence. Also, this study identified the ideal sources for these types of social support. Specifically, interventions should primarily target friends and/or significant others to provide the previously mentioned companionship and/or emotional support for the intervention recipients. Thus the mailed information could also include separate handouts for friends or significant others indicating the importance of their involvement and specific ways they could be supportive of the targeted individual. The inclusion of these types of social support from these sources could enhance and increase exercise behaviour.

Future research should attempt to examine all five stages of the Transtheoretical Model by targeting populations known to be sedentary in order to ensure sufficient distribution throughout all five stages. This is especially important in order to make recommendations or create interventions for individuals residing within the first three stages of exercise behaviour (precontemplation, contemplation, preparation) due to the sedentary nature of these stages. Companionship or emotional support may be a vital addition to these interventions as identified in the last three exercise stages by the current study.

First Author's Biography

This study conducted during Jessica N. Stapleton's Master's degree at Southern Illinois University Edwardsville (SIUE) in 2011. She graduated from SIUE with a Master of Science in Education. Ms. Stapleton is currently a Ph.D. candidate at McMaster University in Hamilton, Ontario.

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Appendix A

Types of Social Support

Instrumental Support: tangible support, practical support, behavioural assistance, material aid	Examples: spotting a weightlifter at the gym, driving one's father to his cardiac rehabilitation exercise class or taking care of a friend's baby while she exercises
Emotional Support: confidant support, esteem support, reassurance of worth, attachment, intimacy	Examples: praising an exerciser for their efforts, encouraging them to work harder and sympathizing with them when they complain about sore muscles
Informational Support: advice/guidance, appraisal support, cognitive guidance, problem solving	Examples: receiving medical advice or feedback concerning exercise or providing informal exercise experiences and providing activity tips
Companionship Support: belonging, socializing, intregration	Examples: having an exercise partner or joining an exercise group
Validation: feedback, social comparision	"If they can do it, so can I" comparing oneself to others who are similar

1. From the table above, which type of social support are you currently receiving that most *positively* affects your exercise behaviour? (Check one)

   ___Instrumental Support
   ___Emotional Support
   ___Informational Support
   ___Companionship Support
   ___ Validation

   a. Who is providing this support?
      ___Parent/Guardian
      ___Friend
      ___Coworker
      ___Doctor
      ___Trainer
      ___Significant Other

2. How do you feel the current type of social support you are receiving affects your exercise behaviour?

3. From the table above, which other types of social support, if any, are you currently receiving that *positively* affect your exercise behaviour? (Check all that apply)

   ___Instrumental Support
   ___Emotional Support
   ___Informational Support
   ___Companionship Support
   ___Validation

   a. Who is providing this support?
      ___Parent/Guardian
      ___Friend
      ___Coworker
      ___Doctor
      ___Trainer
      ___Significant Other

4. From the table above, which is the primary type of social support that would be most beneficial to your exercise behaviour? (Check one)

   ___Instrumental Support
   ___Emotional Support
   ___Informational Support
   ___Companionship Support
   ___Validation

a. From whom would you like to receive this support
___Parent/Guardian
___Friend
___Coworker
___Doctor
___Trainer
___Significant Other

5. What is it about this type that you believe is or would be significant to improving your exercise behaviour?