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Social influence and physical activity in older females: Does activity preference matter?

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ABSTRACT

Background: Older adults appear to have different activity preferences (prefer to be active alone or with others, or show no preference). As the activity of older females is often associated with social influences (i.e., how others influence the behavior or thoughts of another), understanding how activity preference might interact with social influences becomes important.

Objectives: This study explored whether activity preferences would moderate the social influence – physical activity relationship in older females.

Methods: The sample for this study was 102 older females with the majority (87%) classified as 'maintainers'. Using a cross-sectional approach, participants completed questionnaires on social influences by channel (family, friends, healthcare workers) and type (modeling, compliance, conformity, obedience), activity preferences, and physical activity.

Results: MANOVA and follow-up results revealed that friends-modeling (F (2, 99) = 8.15, $p < .01$) and friends-compliance/conformity (F (2, 99) = 9.82, $p < .01$) were greater in individuals who preferred to be active with others than those who preferred to be active alone. Results from a hierarchical multiple regression examining activity preferences as a moderator were significant ($R^2_{change} = .11$). For those who preferred to be active with others, friends-modeling was positively related to activity ($b = 1.28$). For individuals with no activity preference, activity was positively related to friends-compliance/conformity ($b = 1.38$) and negatively related to friends-modeling ($b = -1.56$).

Conclusion: Results provide preliminary evidence that activity preferences appear to moderate the relationship between the influence of friends and activity in older females, especially for those who are activity maintainers.

Being physically active has been linked with several positive health benefits in older women including the prevention of cognitive decline (Sumic, Michael, Carlson, Howieson, & Kaye, 2007) and maintenance of quality of life (Koltyn, 2001). Yet, despite the importance of physical activity for health, older females belong to a particularly inactive part of the population (Craig, Russell, Cameron, & Bauman, 2004).

In designing interventions to increase activity in adults, an identification of key activity correlates becomes important with social influence being one factor that has received attention in the literature (Trost, Owen, Bauman, Sallis, & Brown, 2002). A meta-analysis reported small to moderate effect sizes for the relationship between social influences and activity adherence in adults with effect sizes of .36 for family support and .44 for important others identified (Carron, Hausenblas, & Mack, 1996). Further, it has been suggested that social variables may contribute more to activity intention in seniors than young adults (Wankel, Mummery, Stephens, & Craig, 1994). This might be particularly important with older females, who have reported greater social motives for being active than males (Kolt, Driver, & Giles, 2004).

Although social influence can be conceptualized in a variety of ways, it typically describes how one individual impacts, directly or indirectly, the thoughts, feelings, or behaviors of another (Turner, 1991). A variety of social influence variables have been examined previously with older adults in the exercise setting including social support (Orsega-Smith, Payne, Mowen, Ching-Hua, & Godbey, 2007), subjective norms (Michels & Kugler, 1998), and modeling (Booth, Owen, Bauman, Clavisi, & Leslie, 2000). While these forms of social influence are common in the exercise setting, other types identified in the social psychology literature such as obedience, compliance, conformity, and modeling (Baron & Byrne, 1981) have been associated with a variety of different health behaviors such as

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dieting (Strong & Huon, 1998) and drinking and seatbelt use (Lau, Quadrel, & Hartman, 1990). Recently, these four types also have been identified by older adults when describing social influences associated with being active (Wilson & Spink, 2006). Given that obedience, compliance, conformity, and modeling have been associated with other health behaviors, as well identified by older adults as influences associated with being active, future examination of these types of social influences in the activity setting appears warranted.

Interestingly, despite the general acceptance of a positive relationship between social influence and activity, research evidence has been mixed. Although a number of studies confirm the positive relationship between social influences and physical activity in older adults, others have not found the proposed relationship. For example, there are studies reporting no relationship between exercise and influences such as social support (Eyler et al., 1999) and subjective norms (Smith & Biddle, 1999). Further, these inconsistencies are highlighted in a narrative review in older adults (Chogahara, O'Brien Cousins, & Wankel, 1998).

While possible reasons to explain these inconsistencies may include study differences in terms of features such as methods, measures, and samples, another possible explanation may involve the influence of moderator variables. Given that moderators produce different estimates between predictors and outcomes (Bauman, Sallis, Dzewaltowski, & Owen, 2002), identification of salient ones may help in our understanding of why social influences are not always associated positively with physical activity. As 'one-size-fits-all' interventions are not as effective as focused interventions, identification of moderators that may help in the tailoring of interventions would appear important (King et al., 2006). However, moderators of the social influence – physical activity relationship are rarely examined. As moderators have been used to help understand the inconsistency found when examining the influence of others on different health behaviors (e.g., social influence-smoking relationship; Stacy, Sussman, Dent, Burton, & Flay, 1992), the possibility exists that moderators might be useful in explaining the inconsistencies in the social influence-physical activity relationship.

One possible moderator to examine in the physical activity area might be preferences for how one is active, as it has been established that individuals have different preferences for how they want to be active. For example, in one study examining older adults, it was found that more preferred to be active alone with some instruction (69%) than in a group led by an activity instructor (31%) (Wilcox, King, Brassington, & Ahn, 1999). In contrast, Beauchamp, Carron, McCutcheon, and Harper (2007) found that older adults expressed a positive preference for exercising in standard activity groups comprised of similarly aged participants. The results of a third study reported that 33.2% of older adults (74–85 years) preferred to walk with a companion whereas 18.1% preferred to walk alone (Cohen-Mansfield, Marx, Biddison, & Guralnik, 2004). The results of these studies suggest that preferences for activity may vary in older adults, with some preferring to be active alone and some with others. Although links have been made between preferences and demographic variables such as gender and age (Cohen-Mansfield et al., 2004), none have related these preferences to social influences and physical activity behavior.

When the suggestion made by others that activity preferences should be considered in the implementation of exercise programs (Beauchamp et al., 2007; Wilcox et al., 1999) is coupled with the suggestion that the preferred channel of delivery increases the relevance and salience of tailored health communications (Rimer & Kreuter, 2006), examining the interaction of activity preferences and social influences becomes important. Related research also suggests that these preferences might be associated with differential responsiveness to specific forms of social influences. In the work setting, for instance, it has been suggested that employees will be most satisfied when their preferences for forms of supervisory influence match the influences they receive (Vecchio & Sussmann, 1989). Given that satisfaction was enhanced when preferences matched the receipt of social influences, it might be assumed that individuals would be more receptive to influences they preferred for being active. Thus, the first purpose in this study was to explore whether older females who prefer to be active alone, with others, or do not have a preference would report different social influences associated with their physical activity. It was hypothesized that those who preferred to be active with others would report being influenced more by others than those who preferred to be active alone.

Further, it has been suggested that individual motivation in the work setting is positively impacted by the congruity between the employee's preferences and the supervisor's influence attempts (Sussmann & Vecchio, 1982). That is, employees who perceive their supervisors using social influence tactics that match their preferences should be the most motivated to work hard. In another example of the influence-preference congruence, a mismatch between the social support provided to women recovering from breast cancer and the social support they wanted was related to poorer psychosocial adjustment (Reynolds & Perrin, 2004). These findings of congruence between preferences and social influences in terms of both motivation and psychosocial adjustment prompts the question of whether one's preference for being active might moderate the relationship between social influence and the behavior of being active. This formed the second purpose of the current study.

Based on the preceding discussion highlighting congruence, it was assumed that responsiveness to social influence to be active would be stronger (i.e., the individual would be more active) when preferences for being active matched the influences received. Specifically, the second hypothesis predicted that increases in social influences would be associated with increased physical activity levels for individuals who preferred to be active with others. The third hypothesis predicted that for those who preferred to be active alone no relationship would emerge between social influences and physical activity. No predictions were made for individuals who reported no activity preference. In addition, as this was the first study to examine activity preference as a moderator, no a priori hypotheses were generated for different types and channels of social influence.

Methods

Participants

Older females ($N = 145$) were recruited for this study from a variety of sources including churches ($n = 33$), senior's housing complexes ($n = 54$), fitness groups ($n = 37$), and service organizations ($n = 16$). The source of a small number of participants ($n = 5$) who returned their questionnaires in the mail could not be identified. All groups contacted agreed to allow the researcher to present the study to participants.

The age of participants ranged from 51 to 95 years, with an average of 74.7 years (SD = 9.16). Thirty-six percent of the sample was married, with the remaining individuals being single. As well, a majority of the sample was retired (83%). Half of the participants (50%) reported living in senior's housing and another 48.3% reported living in their own home or apartment. The health of participants was generally good to excellent (82%).

Individuals identified as univariate outliers ($n = 3$) based on physical activity scores ($z > 3.29$) or multivariate outliers ($n = 2$)