Demographic dissimilarity and affective reactions to physical activity classes: The moderating effects of diversity beliefs

GEORGE B. CUNNINGHAM

Texas A&M University, Tamu, USA

The purpose of this study was to examine the influence of pro-diversity beliefs on college students’ reactions to physical activity classes. Data were collected from 157 students at a large public university in the Southwest United States. Structural equation modeling indicated that pro-diversity beliefs moderated the relationship between perceived race dissimilarity and satisfaction with others in the class. The effects were particularly strong among those who perceived themselves to be racially similar to the rest of their classmates. Satisfaction with classmates then held a positive association with satisfaction affective reactions to the class. The findings contribute to the diversity literature and have implications for class instruction.

KEY WORDS: Affective reactions, Dissimilarity, Physical activity.

Diversity represents one of the most important issues within sport and physical activity today. While many gains have been made in some areas (e.g., increased participation among women), people who differ from the typical majority continue to face prejudice and discrimination (for an overview, see Cunningham, 2007b; Cunningham & Fink, 2006). For instance, women and racial minorities are under-represented in coaching and leadership positions (Acosta & Carpenter, 2008; Lapchick, 2009), sexual minorities face physical abuse from other players (Anderson, 2002) and discrimination in the workplace (Sartore & Cunningham, 2009), and persons with disabilities encounter barriers both in terms of inclusion and accessibility (DePauw & Gavron, 2005). These effects are also observed in physical activity patterns. Women (Carron, Hausenblas, & Eastebrooks, 2003), racial minorities (Grieser et al.,

For correspondence: George B. Cunningham, Laboratory for Diversity in Sport, Department of Health and Kinesiology, Texas A&M University, 4243 TAMU College Station, Texas 77843-4243 (E-mail: gbcunningham@tamu.edu).
2008; Hibbler & Shinew, 2002), the elderly (Sheppard et al., 2003), and persons with disabilities (DePauw & Gavron, 2005) all participate less frequently in exercise and leisure activities than do their counterparts. The differential participation patterns have been attributed to a number of factors, including institutionalized prejudice, socioeconomic status, and cultural norms (Cunningham, 2007b; Mays, Cochran, & Barnes, 2007).

In examining these issues, diversity and social justice researchers have most frequently compared the sport experiences of one group of people (e.g., women) to another (e.g., men), or what Tsui and Gutek (1999) refer to as a categorical approach to diversity research. While such studies provide considerable insights, they are also limited in that they do not consider potential within-group differences or contextual influences. As an alternative, Tsui and Gutek (1999; see also Riordan, 2000) argued for a relational demography approach to the study of diversity. The underlying premise here is that one’s demographic characteristics, relative to the characteristics of others in that social group, will impact that person’s subsequent attitudes, behaviors, and performance. Thus, the relational demography approach moves beyond comparing members of various social categories to consider the individual in relation to the group. The primacy of a relational demography perspective is heightened in sport and physical activity, being that a number of people exercise or are physical activity in group settings (Carron et al., 2003).

The few researchers to adopt this perspective within the sport setting have found that people who differ from others in a group have poorer experiences than do their counterparts (Cunningham, 2006, 2007c; Fink, Pastore, & Riemer, 2001). Cunningham’s (2006) study of physical activity class students is particularly relevant to the current investigation. He observed that people who differed from others in the class by gender, race, and age also had low affective reactions to the class—that is, they did not express the enjoyment, fun, or involvement as those who were demographically similar to their classmates. These relationships were mediated by perceptions of such demographic differences and by perceived deep-level dissimilarity, or the degree to which people differ based on unseen attributes, such as values, personality, and attitudes. That dissimilarity from others resulted in lower affect to the class is especially disconcerting when considering the link between affect and continued participation in both physical activity classes and the activity itself (Cunningham, 2007a).

Collectively, this literature paints a dim picture: despite the many positive effects of regular physical activity (Haskell, 1994; Biddle & Mutrie, 2001), people who are dissimilar from others in the physical activity context
are likely to express lower levels of liking and enjoyment, which in turn, negatively affects their subsequent activity levels. Efforts are needed, therefore, to address these trends and to ameliorate the negative effects of demographic dissimilarity from others. The purpose of this study is to examine the efficacy of one such strategy. Specifically, in drawing from the social categorization framework (Tajfel & Turner, 1979; Turner, Hogg, Oaks, Reicher, & Wetherell, 1987) and the recent work concerning diversity mindsets (van Knippenberg & Schippers, 2007), I argue that the negative effects of dissimilarity on subsequent affect are likely to be attenuated when the class is characterized by pro-diversity beliefs. These effects are examined for age, race, and gender diversity. In the following space, I provide an overview of the study’s theoretical underpinnings and present specific hypotheses.

**Theoretical Framework**

**Social Categorization**

The social categorization framework provides the theoretical foundations for relational demography. This framework, which collectively draws for social identity theory (Tajfel & Turner, 1979) and self-categorization theory (Turner et al., 1987), suggests that people classify themselves and others into groups. This classification process can be based on a myriad of factors, including demographics (e.g., race, age), values and attitudes (e.g., liberal, conservative), or other identities (e.g., Protestant, Catholic). Thus, people define themselves in terms of a social identity (Tajfel & Turner, 1979). In doing so, persons who are perceived as similar to the self are considered in-group members, while those who differ from the self are considered out-group members. When the positive distinctiveness of the in-group is challenged or threatened, the social categorizations will result in intergroup bias, whereby people hold more positive attitudes and engage in more helping behaviors toward in-group members than they do toward out-group members (Tajfel & Turner, 1979; see also Hogg & Abrams, 1988). This process creates an intergroup bias and the subsequent “us” and “them” distinctions.

The social categorization process is seen as fundamental to understanding the potential negative effects of being different from others in a group. Mannix and Neale (2005), for instance, suggested that social categorization and the accompanying stereotypes are likely to result in “biased behavior directed toward out-group members and favoritism and preference directed toward in-group members” (p. 41). In a similar way, Tsui, Egan, and O’Reilly
(1992) suggested that the social categorization process was fundamental to understanding people’s preference for working in groups of people demographically similar to the self. The social categorization framework is likewise applicable in the current study and helps explain why demographic dissimilarity from others in an physical activity group is associated with poor outcomes (Cunningham, 2006).

DIVERSITY MINDSETS

Researchers have increasingly sought to target the social categorization process as a way to reduce intergroup bias (see Brewer & Miller, 1984; Gaertner & Dovidio, 2000; Brown & Hewstone, 2005). The underlying assumption here is that if intergroup evaluations can change such that perceptions of the in-group correspond with those of the out-group, then the negative effects of dissimilarity would dissipate. One such strategy for achieving this end is to target people’s diversity mindsets, also referred to as diversity beliefs. According to van Knippenberg and Schippers (2007), whose research was set in the organizational context, the effects of increased diversity “should be more positive in contexts where individuals, groups, and organizations have more favorable beliefs about and attitudes toward diversity, are more focused on harvesting the benefits of diversity, and have a better understanding of how to realize these benefits” (p. 531). When diversity is seen in a positive light and perceived as beneficial to the physical activity class context, those who are different from the typical majority might also be valued, as opposed to being marginalized. After all, it is the presence of differences that positively contributes to the class and the learning that takes place in it; thus, demographically different others might be perceived as the individuals who make the class diverse in the first place. This reasoning suggests that, in contexts where diversity is valued, demographically different persons might be more satisfied with their experience than if they were in a class where differences were not viewed so positively.

While the research is just emerging, there is some work to support this rationale. Ely and Thomas (2001), in their qualitative study of multiple firms, found that employees who worked in companies that valued diversity and fully integrated it into the organizational system were likely to (a) feel valued and respected, (b) openly discuss and integrate diversity topics and issues, and (c) perceived their diversity as “a potential source of insight and skill” (p. 257). In a laboratory study, Homan, van Knippenberg, Van Kleef, and De Dreu (2007) found that diverse groups performed better when the group was
characterized by pro-diversity attitudes rather than pro-similarity beliefs. Homogeneous groups in their study were unaffected by diversity beliefs. In both their experimental and field-based studies, van Knippenberg, Haslam, and Platow (2007) found that people more closely identified with diverse groups when they believed that diversity added to the value of that group. Finally, in two separate studies, Cunningham (2008, 2009) found that athletic departments that coupled pro-diversity beliefs with high employee diversity realized greater employee satisfaction, creativity, and objective measures of performance than did their peers.

Current research

In drawing from this literature, the purpose of the current study was to examine the potential effects of pro-diversity beliefs on the relationship between perceived demographic dissimilarity and affective reactions to the class. As previously articulated, the emphasis on perceived dissimilarity is based on the growing literature showing that perceptions of being different mediate the relationship between actual differences and subsequent outcomes (Cunningham, 2006, 2007c; Harrison, Price, Gavin, & Florey, 2002; for an excellent review, see Riordan, 2000). In drawing from the diversity mindset research (Ely & Thomas, 2001; van Knippenberg & Schippers, 2007), it was expected that pro-diversity beliefs would influence the relationship between perceived dissimilarity and the interactions with others in the class. From one perspective, it is being different from dissimilar others that is thought to negatively influence affective reactions to the class (Cunningham, 2006); thus, if differences are viewed in a positive light, then this might most directly affect students’ interactions with and reactions toward the other students. From a different perspective, pro-diversity beliefs might also influence the attitudes of those who are similar. That is, for persons in the majority, pro-diversity attitudes might result in them holding more positive attitudes toward those who might have traditionally been viewed as different (van Knippenberg et al., 2007). By way of example, a White male who holds pro-diversity attitudes might have more positive attitudes toward dissimilar others, relative to another White male who does not. If this is the case, then satisfaction with one’s classmates would be higher for the White male with pro-diversity attitudes than it would for his counterpart who does not hold such beliefs.

Based on this rationale, I first hypothesized that pro-diversity beliefs would moderate the relationship between perceived demographic dissimila-
rity and satisfaction with students in the class. Corresponding hypotheses are presented for the different diversity forms: perceived age dissimilarity (hypothesis 1a), perceived sex dissimilarity (hypothesis 1b), and perceived race dissimilarity (hypothesis 1c). These hypotheses are based on the premise that being different from others in the class impacts one’s affective reactions to others in the class. If this is the case, then satisfaction with classmates ought to also impact one’s overall affective reactions to the class. Indeed, others have also noted the influence of others in the class on shaping one’s affective reactions (Cunningham, 2007a; Leenders, Sherman, & Ward, 2003). As such, I also hypothesized that satisfaction with classmates would be positively related to affective reactions to the class (hypothesis 2). The specific methods and data analysis employed to test these hypotheses are presented in the following sections.

Method

Participants

Students (N = 157) who were enrolled in physical activity classes (i.e., basketball and soccer) at a large university in the southern United States participated in the study. All participants provided consent to take part in the study. The sample included 86 men (54.8%) and 71 women (45.1%); it was mostly White (n = 116, 73.9%), followed by Hispanic (n = 21, 13.4%), Asian (n = 8, 5.1%), African American (n = 7, 4.5%), and persons who chose the “other” category (n = 4, 2.5%). The mean age of the participants was 19.94 years (SD = 1.52), with a range from 18 to 25 years. The college classification of the participants was relatively evenly distributed: 48 freshmen (30.6%), 37 sophomores (23.6%), 37 juniors (23.6%), and 35 seniors (22.3%).

Measures

Participants received a questionnaire which requested them to provide their demographic information, as outlined in the preceding section, and to respond to items pertaining to their perceived dissimilarity, diversity beliefs, satisfaction with classmates, and affective reactions to the class.

Perceived demographic dissimilarity. Three items adapted from Harrison and colleagues’ work (Harrison, Price, & Bell, 1998; Harrison, Price, Gavin, & Florey, 2002) were used to measure perceived demographic dissimilarity from others in the class. Students read the following phrase: “Think about yourself in relation to others in the class. How similar to others in the class are you with respect to:”. Participants then rated their similarity based on “age”, “sex”, and “race” using a 7-point Likert-type scale ranging from 1 (very dissimilar) to 7 (very similar). Responses were reverse scored such that higher scores were reflective of greater perceived dissimilarity. A number of studies have provided content and predictive validity evidence for this scale (Cunningham, 2006, 2007c; Harrison et al., 1998, 2002).
Diversity beliefs. In drawing from van Knippenberg and Schippers (2007) and Ely and Thomas (2001), two items were used to measure diversity beliefs ($\alpha = .67$): “differences among students positively influence the class” and “differences among people make the class a success.” The items were measured using a 7-point Likert-type scale from 1 (strongly disagree) to 7 (strongly agree).

Satisfaction with classmates. Satisfaction with classmates ($\alpha = .90$) was measured with three items modified from Bishop and Scott (2000). The items were preceded by the phrase, “how satisfied are you with...”. A sample item is “how you get along with others in the class.” Participants responded to the items using a 7-point Likert-type scale from 1 (not at all satisfied) to 7 (very satisfied).

Affective reactions to the class. Affective reactions to the class were measured with three items from the Satisfaction/Interest in Sport Scale (Duda & Nicholls, 1992). The items were adapted to fit the context of the physical activity class setting (see Treasure & Roberts, 2001, for a similar approach): “I usually enjoy myself,” “I usually get really involved in the class,” and “I usually have fun” ($\alpha = .71$). The items were preceded by the phrase “when participating in this physical activity class:” and were anchored by a Likert-type scale from 1 (not true) to 7 (very true). Various studies, across a variety of settings, have demonstrated the sound psychometric properties (e.g., validity evidence, high reliability) of the scale, across a variety of settings (Duda & Nicholls, 1992; Nicholls, Cobb, Wood, Yackel, & Patashnick, 1990; Treasure & Roberts, 2001).

PROCEDURES

After I received approval for the study from the university’s human subjects board and the course instructors, I asked students enrolled in basketball and soccer classes to participate in the study. These specific classes were chosen because the students participate in an interdependent manner with one another, and the outcomes (both positive and negative) associated with diversity are most likely to be detected under such conditions (Doherty & Chelladurai, 1999; Jehn, Northcraft, & Neale, 1999). These classes met twice a week over a 15-week semester. The questionnaire distribution took place during the twelfth week of the semester, thereby allowing participants to have the time form their perceptions of the class. Participation in the study was voluntary, and approximately 10 minutes were required to complete each questionnaire. Questionnaires were distributed at the end of the class periods, thereby allowing those not wishing to participate to leave. Participants were debriefed as to the purpose of the study after completing the questionnaire. All the questionnaires were collected during the same week for each data collection time.

Data analysis

The data analysis was a multi-step process (Anderson & Gerbing, 1988). Prior to conducting the primary analyses, a confirmatory factor analysis, using AMOS 7.0 (Arbuckle, 2006), was used to examine validity evidence of the multi-item measures (i.e., diversity beliefs, satisfaction with classmates, affective reactions to the class) based on internal
structure. An oblique model was tested, thereby allowing the latent factors to correlate with one another, and errors were left independent (see Arbuckle, 2006). Means, standard deviations, and bivariate correlations were then computed for all variables. Finally, structural equation modeling was then used to examine the study hypotheses. Marsh, Wen, and Hau’s (2004) guidelines were used to test the moderating effects of pro-diversity beliefs on the relationship between perceived demographic dissimilarity and satisfaction with classmates. Note that the perceived demographic dissimilarity variables were measured with the single item; thus, in efforts to not duplicate material in creating interaction terms (Marsh et al., 2004), diversity beliefs were treated as an observed variable in the analysis. The root mean square error of approximation (RMSEA) and comparative fit index (CFI) were both used to assess model fit. Following Williams, Vandenberg, and Edwards (2009), RMSEA values of .08 or less and CFI values of .95 or greater were considered indicative of close fit.

Results

CONFIRMATORY FACTOR ANALYSIS

Results of the confirmatory factor analysis indicated that the hypothesized three-factor model (i.e., where diversity beliefs, satisfaction with classmates, and affective reactions are distinct factors) was a good fit to the data: \( \chi^2 (n = 157, df = 17) = 25.29, p = .09; \chi^2 / df = 1.49; \) RMSEA (90% confidence interval: .00, .10) = .06; CFI = .98. This model was tested against an alternative, two-factor model, where the satisfaction items all loaded on a single factor and the diversity belief items loaded on another. This model was a poor fit to the data: \( \chi^2 (n = 157, df = 19) = 71.86, p < .001; \chi^2 / df = 3.78; \) RMSEA (90% confidence interval: .10, .17) = .13; CFI = .89. The chi-square difference test indicated that the hypothesized model was a statistically better fit to the data than was the alternative model: \( \Delta\chi^2 (\Delta df = 2) = 46.57, p < .001. \) Collectively, these results point to the sound psychometric properties of the measures used in the study.

DESCRIPTIVE STATISTICS

Descriptive statistics are presented in Table 1. Perceived age dissimilarity was negatively related to satisfaction with students, while perceived sex and race dissimilarity were not. Pro-diversity beliefs were positively related to satisfaction with classmates and affective reactions to the class as a whole, and the latter two variables also held significant, positive associations with one another.
Results from the structural equation model indicated that the model was a good fit to the data: $\chi^2 (n = 157, df = 43) = 57.70, p = .06; \chi^2 / df = 1.34$; RMSEA (90% confidence interval: .00, .08) = .05; CFI = .97. A test of the partially mediated model indicated that the data were also a close fit to the model: $\chi^2 (n = 157, df = 36) = 46.93, p = .11; \chi^2 / df = 1.30$; RMSEA (90% confidence interval: .00, .08) = .04; CFI = .98. However, the chi-square difference test indicated that the two models did not significantly differ from one another: $\Delta\chi^2 (\Delta df = 7) = 10.77, p > .05$. Thus, the more parsimonious model was accepted and interpreted when testing the hypotheses. The model explained 24% of the variance in satisfaction with classmates and 35% of the variance in satisfaction with the class. An illustrative summary of the findings is presented in Figure 1.

Hypothesis 1a-1c predicted that pro-diversity beliefs would moderate the relationship between perceived age dissimilarity, perceived sex dissimilarity, and perceived race dissimilarity, respectively, and satisfaction with classmates. As seen in Figure 1, Hypotheses 1a and 1b were not supported. However, in support of Hypothesis 1c, the perceived racial dissimilarity × pro-diversity beliefs interaction term was significant ($\beta = -.18, p < .05$), and the interaction is depicted in Figure 2. For both persons who perceived themselves to be similar and those who perceived themselves to be different from others, pro-diversity beliefs were associated with greater satisfaction with classmates; however, the effects were stronger for persons who perceived themselves to be racially similar to the class than it was for their counterparts.

Hypothesis 2 was supported. Satisfaction with classmates was positively associated with affective reactions to the class ($\beta = -.31, p < .001$).
Fig. 1. - Illustrative summary of structural equation model. 
**p < .01. ***p < .001.

Fig. 2. - Moderating effects of pro-diversity beliefs on the relationship between racial dissimilarity and perceived deep-level dissimilarity.
Discussion

People who differ from others in a group setting are likely to have less positive experiences in that setting than are their counterparts (Riordan, 2000; van Knippenberg & Schippers, 2007). This trend is particularly relevant to the sport and physical activity context given (a) the high number of people who exercise in groups, and (b) that demographic dissimilarity from others in an exercise setting has been shown to negatively influence people’s affective reactions (Cunningham, 2006). The purpose of this study was to examine the potential of pro-diversity mindsets in reducing these negative effects. In pointing to the efficacy of this approach, results indicate that such beliefs were positively associated with both satisfaction with others in the class and affective reactions to the class (see Table 1). These findings are consistent with research in other contexts (Ely & Thomas, 2001; Fink, Pastore, & Riemer, 2001) showing that people who perceive their group to hold positive attitudes toward diversity are also more likely to have pleasant experiences in that entity.

In addition, pro-diversity beliefs moderated the relationship between perceived racial dissimilarity and satisfaction with classmates, with the effects being stronger for persons who were racially similar. These results suggest that when racially similar persons, which in this context predominantly means White students, had positive attitudes toward the value diversity brought to the class, they were more likely to have positive affective reactions to all of their peers in the class. From a social categorization perspective (Tajfel & Turner, 1979; Turner et al., 1987), ceteris paribus, people are likely to hold positive attitudes toward racially similar others, which in this case, would mean Whites being satisfied with other Whites. It is possible that the pro-diversity attitudes also increased the evaluations among Whites of racially dissimilar others. If this is the case, then the satisfaction with all students—those racially similar and those who are racially different—would be higher than if such pro-diversity beliefs did not exist. Such a rationale is consistent with related findings from van Knippenberg et al. (2007), who observed that people more closely identify with a diverse group when they believe that diversity adds to the functioning of the group.

Interestingly, the moderating effects of pro-diversity beliefs were not present for perceived age and sex dissimilarity. From a multivariate perspective (see Figure 1), neither of these variables had independent effects. It is possible that the restricted age range (18-25 years) influenced these results. Indeed, as seen in Table 1, perceived age dissimilarity had the lowest mean score and smallest standard deviation, thereby suggesting little variability in
the students’ perceptions. The lack of effects for sex is more puzzling, as previous research in this context (Cunningham, 2006) has found that perceived sex diversity does influence subsequent outcomes. Cunningham’s study focused on the influence of sex diversity on subsequent perceptions of deep-level differences, however, and not satisfaction with other students. It is possible that since men and women are equally represented on the college campus where the research took place and in many of the activity classes, such differences do not have a considerable impact on subsequent satisfaction with other students.

Finally, the results point to the importance of satisfaction with others in influencing students’ positive affective reactions to the class as a whole. These findings are consistent with previous research in the leisure, recreation, and athletics domains, which has shown that many people derive their satisfaction with those endeavors based on their satisfaction with others in the group (Beard & Ragheb, 1980; Chelladurai & Riemer, 1997; Rossman, 1995). Within the physical activity setting, then, fostering amicable relations among students appears to be key in influencing students’ satisfaction with the class as a whole.

Contributions, Limitations, and Future Directions

This study makes several contributions to the extant literature. First, previous research has pointed to the negative effects of being different from others in a group, as such differences negatively influence people attitudes toward and behaviors in the group (Cunningham, 2006, 2007c; Randel & Jaussi, 2003; Tsui et al., 1992). Being different from others, however, is increasingly becoming a reality, whether in educational settings or within organizations. Thus, seeking ways to improve the interactions among people in diverse groups is paramount. This study identified one such mechanism: the diversity mind-set. These findings are encouraging, as research suggests that people’s attitudes toward diversity are not set in stone, but can be influenced through education (Cunningham & Fitzgerald, 2006; Rynes & Rosen, 1995). Consequently, instructors might be able to change people’s diversity mindsets, and their resultant affect toward the class, through diversity-related instruction.

In a related way, activity class instructors can model the value in diversity in their classroom. This could be accomplished by illustrating the benefits of taking into account different perspectives and opinions, discussing research findings showing the positive effects of differences among group members.
(see Homan et al., 2007), or strategically assigning dissimilar classmates to work with one another under cooperative conditions (see Pettigrew, 1998).

Despite these contributions, there are limitations. Some may point to the single data collection as a limitation, as method variance becomes a concern. An important point to consider, however, is that such concerns are unfounded with respect to the moderation effects, as common method bias cannot account for interactions, and, if anything, actually makes them harder to detect (McClelland & Judd, 1993). Second, the data were collected at a single university in the Southwest United States; thus, caution should be used when generalizing these results to other contexts.

Based on the study’s findings, there are several avenues for future research. First, future researchers should continue to explore how to ameliorate the potential negative effects of differences within groups, and specifically physical activity classes. In drawing from a social categorization perspective (Tajfel & Turner, 1979; Turner et al., 1987), efforts aimed at targeting how people shape their perceptions of (dis)similarity from others might prove fruitful. For instance, research among collegiate coaches has shown that the presence of a common in-group identity on the coaching staff increased the satisfaction of coaches who racially differed from their colleagues (Cunningham, 2005). Similar approaches could be considered in the physical activity class setting. Second, the data were collected at one point in the semester. Some researchers have found, however, that the saliency of social categories potentially changes over time (Harrison et al., 1998, 2002). In drawing from this understanding, researchers should investigate the influence of pro-diversity beliefs on group functioning over time. Third, additional research adopting a qualitative approach might yield unique insights. Finally, additional research is needed to understand other factors that influence students’ satisfaction with physical activity classes, especially when considering the benefits those classes have in shaping the students’ health behaviors (Cunningham, 2007a; Leenders et al., 2003; Sparling, 2003). Indeed, any efforts aimed at increasing the positive affective reactions college students have toward physical activity and healthy living would prove to be a useful endeavor.

REFERENCES


---

Manuscript submitted September 2008. Accepted for publication March 2010.

402