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Research article

Student Misbehavior in Physical Education: The Role of 2 × 2 Achievement Goals and Moral Disengagement

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Abstract
This study aimed to determine whether goal orientations were related to students' self-reported misbehaviors in physical education and to examine whether the effects were mediated by moral disengagement. A two-study project employing structural equation modeling was conducted with high school students (Study 1, n = 287; Study 2, n = 296). In Study 1, the results showed that mastery-avoidance goals were unable to predict five misbehaviors (i.e., aggressive behavior, low engagement, failure to follow directions, poor self-management, and distracting behavior). Mastery-approach goals negatively predicted low engagement, failure to follow directions, and poor self-management. Performance-approach goals positively predicted aggressive and distracting behaviors, while performance-avoidance goals positively predicted all five misbehaviors. In Study 2, the results indicated that the positive relationships between performance-approach goals and misbehaviors and between performance-avoidance goals and misbehaviors were mediated by moral disengagement. These results are discussed in terms of the model of achievement goals, and implications for physical education are also highlighted.

Key words: Goal orientation, mediation, structural equation modeling.

Introduction

Scholars have always been concerned about student misbehaviors in the classroom. Studies conducted in general educational contexts have specifically shown that student misbehaviors interfere with teaching and thus hinder the quality of education. Such misbehaviors have also been found to be one of the main causes of the working stress and burnout among teachers in the long term (Kaplan et al., 2002; Kaplan and Maehr, 1999; Lewis, 1999). Recent studies in the context of physical education have suggested that student misbehaviors not only influence teaching quality but also impede the learning of peers (Cothran et al., 2009; Kulinna et al., 2006). Hence, the misbehaviors of students in physical education have been viewed as a crucial research topic.

Student misbehaviors have gained attention, but studies have thus far focused mostly on the types and measures of such behaviors. For instance, Goyette et al., (2000) categorized the behaviors of Canadian students in physical education at three levels based on the seriousness of their behaviors: the primary (e.g., being distracted, talking, and lacking a uniform), the secondary (e.g., clowning around, making noise, and harassing others), and the tertiary (e.g., criticizing others, being rude, and acting aggressively). Kulinna et al. (2003) developed the Physical Education Classroom Instrument (PECI) to measure the misbehaviors of students in physical education. This measurement includes 59 items and six subscales: (a) Aggressive Behavior, (b) Low Engagement or Irresponsibility, (c) Failure to Follow Directions, (d) Illegal or Harmful Behavior, (e) Distracting or Disruptive Behavior, and (f) Poor Self-Management. A follow-up study used the PECI as a research tool to investigate the misbehaviors of students in physical education from both pupils' and teachers' perspectives (Kulinna et al., 2006). Because the PECI takes a long time to complete and is thus less practical for researchers, Krech et al. (2010) developed a short-form version of the PECI with only 20 items and five dimensions: (a) Aggressive Behavior, (b) Low Engagement, (c) Failure to Follow Directions, (d) Poor Self-management, and (e) Distracting Behavior. Meanwhile, Lin and Lin (2008) conducted a similar study in Taiwan, developing a questionnaire to measure how perceived student behaviors have impacts on learning in physical education and categorizing the behaviors that interfere with peers' learning into eight dimensions (i.e., displaying a lack of sportsmanship, avoiding teaching activities, being idle, attempting to draw attention to oneself, being uncooperative during teaching activities, being competitive, breaking rules, and talk and will). Surprisingly, these studies all suggested probing further into the factors driving the misbehaviors in physical education; however, studies on this issue remain scarce.

The determinants of student misbehaviors in physical education must be identified through theoretical frameworks due to the insufficient findings on this issue. In previous studies, achievement goal theory was most frequently used to explain the behaviors of students in physical education (Wang et al., 2007; 2010; Warburton and Spray, 2009) because students who have different goal orientations for physical education accordingly demonstrate different behaviors. Nicholls (1984) suggested that learners have two goal orientations: performance and mastery. Performance-oriented individuals are more likely to compare themselves with others and behave negatively, while mastery-oriented individuals tend to compete with themselves and have more positive behaviors. Nevertheless, the findings on the relationship between performance goals and maladaptation were inconsistent in many studies. Elliot and Church (1997) examined theoretical frameworks and relevant empirical studies and found that some performance-oriented individuals

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focus on the possibility of succeeding while others intend to emphasize the possibility of failure. Therefore, they proposed the concept of "approach-avoidance" and further divided the performance goal orientation into "performance-approach" and "performance-avoidance" to form a trichotomous achievement-goal framework with the existing mastery goal. Researchers (Elliot, 1999; Elliot and McGregor, 2001) added the concept of "approach-avoidance" and formed 2 × 2 achievement-goal orientation framework (i.e., mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance).

Agbuga et al. (2010) conducted one of the most significant studies on the link between students' achievement goals and misbehaviors; the relationship between students' achievement goals and disruptive behaviors were examined in an after-school physical activity program. The findings suggested that the participants' performance-approach and performance-avoidance goals were positively related to their self-reported disruptive behaviors, whereas the mastery goal was negatively related to low engagement. The current study attempted to further explore the understanding of student misbehaviors in physical education, building on the foundation of Agbuga et al. (2010). First, since the 2 × 2 achievement goal framework has gained sufficient supporting evidence in physical education (Chen et al., 2009; Wang et al., 2007; 2010), the current study intended to replace the trichotomous model with the 2 × 2 achievement goal framework as its theoretical foundation. Second, Agbuga et al. (2010) adopted the PECI of Kulinna et al. (2003) as the measure of disruptive behaviors in their study, but the items and factor structure in the newly developed PECI (Krech et al., 2010) are distinct from the 2003 version. Hence, the new version of the PECI is believed to potentially measure the misbehaviors of students in physical education more accurately.

In addition to goal orientations, another variable relevant to misbehaviors in physical education is moral disengagement. According to social cognitive theory (Bandura, 1991), individuals will act in line with social norms and their conscience under rational self-monitoring and will restrain themselves when they perceive their acts or behaviors as violations of social norms and conscience. By contrast, individuals will also rationalize their inappropriate or immoral behaviors by disengaging from self-regulation. This psychosocial mechanism of rationalization is considered moral disengagement. Bandura (1999) further identified eight mechanisms of moral disengagement: euphemistic labeling, moral justification, advantageous comparison, diffusion of responsibility, displacement of responsibility, distortion of consequences, dehumanization, and attribution of blame. Take "diffusion of responsibility" as an example; when a student is being lazy in class, he/she may rationalize this behavior by thinking that other students are also being lazy in class, so he/she is just "doing what others do."

Scholars have already turned their attention to the antecedents of moral disengagement in sports. Moral disengagement is found to be a psychosocial mechanism that can explain athletes' anti-social behaviors of athletes in depth, and it has gained empirical support in many different sports disciplines in recent studies in sports contexts (see Boardley and Kavussanu, 2011, for an overall review). Kavussanu (2008) reviewed studies regarding moral disengagement in sports and suggested that researchers examine whether moral disengagement plays a mediating role in achievement goals and relevant behaviors. Corrion et al. (2009) also argued that moral disengagement in sports must be examined with the 2 × 2 achievement goal framework. The approach and avoidance achievement goals in this framework will make additional contributions both theoretically and practically. Boardley and Kavussanu (2009) conducted research on hockey and netball players and found that the perceived mastery climate of athletes had negative effects on antisocial behavior; by contrast, the performance climate had positive effects on antisocial behavior, while moral disengagement served as the mediator of both effects. Boardley and Kavussanu (2010) further examined the relationships between athletes' goal orientation, moral disengagement, and antisocial behaviors and found that moral disengagement mediated the effects of ego orientation on antisocial behaviors. Both studies suggested that athletes would use the psychosocial mechanism of moral disengagement to disengage from or discontinue their self-monitoring of antisocial behaviors, while the levels of moral disengagement were influenced by their goal orientations or perceived motivational climates. Thus, the current study aimed to further examine the roles of moral disengagement in physical education based on the study of Boardley and Kavussanu (2010) and adopted the 2 × 2 achievement goal framework rather than performance and mastery orientations. This approach is expected to further the understanding of the relationships among goal orientation, moral disengagement, and misbehaviors of physical education students.

In general, the current study was to determine whether goal orientations were related to students' self-reported misbehaviors in physical education and whether any effects were mediated by moral disengagement. Based on previous studies (Agbuga et al., 2010; Elliot and Moller, 2003), we hypothesized that performance-approach and performance-avoidance goals would positively predict student misbehaviors, whereas mastery-approach and mastery-avoidance goals would negatively predict student misbehaviors. Consistent with past research on athletes (Boardley and Kavussanu, 2010), we hypothesized that moral disengagement would mediate the effects of goal orientations on self-reported student misbehaviors in physical education.

Methods

Participants and procedure

This study comprised two stages. In the first stage, a total of 336 questionnaires were distributed to 12 classes in four junior high schools in northern Taiwan, including those in urban and rural areas. A total of 287 valid questionnaires were returned; the valid response rate was 85.41%. These students were in grades 7–9 (155 male students (54.01%) and 132 female students (45.99%));

their average age was 14.2 years. In the second stage, 432 questionnaires were distributed to 16 classes in another eight junior high schools in northern Taiwan. In total, 296 valid questionnaires were returned; the valid response rate was 68.05%. These students were also in grades 7–9 (164 male students (55.10%) and 132 female students (44.90%)); their average age was 14.1 years. The major systems of basic education in Taiwan include (a) elementary school, ranging from grades 1 to 6; (b) junior high school, ranging from grades 7 to 9; and (c) high school, ranging from grades 10 to 12. Children must participate in a 9-year compulsory education program from elementary to junior high school. Physical education courses are compulsory, and junior high school students in Taiwan have to attend a 45-minute class twice a week.

The university's ethical review board approved this study. The researcher requested that class teachers distribute consent forms to students' parents; the students participated in this study only after their parents signed consent forms. Before the students completed the questionnaires, class teachers were asked to leave the classrooms; accordingly, the students could complete the questionnaires without feeling any pressure or influence.

Measures

Achievement Goal in Physical Education: The 2 × 2 Achievement Goal in Physical Education Questionnaire (AGPEQ; Wang et al., 2007) was used to measure students' achievement goals in a physical education context. This scale includes 12 items (e.g., "I desire to completely master the material presented in physical education class" and "It is important for me to do better than other students in physical education class"). Participants were asked to rate each item on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The Chinese version of the AGPEQ has shown acceptable levels of internal consistency, as the alpha coefficients of the four subscales ranged from 0.73 to 0.90. The evidence for its factorial, convergent, and concurrent validity has been reported in a previous study (Chen et al., 2009).

Student Misbehaviors in Physical Education: A short-form version of the PECI (PECI-S; Krech et al., 2010) was used to measure student misbehaviors in physical education. The PECI-S includes twenty items (e.g., leaving the group during an activity) and five subscales (aggressive behavior, low engagement, failure to follow directions, poor self-management, and distracting behavior) and asks students to rate how often these misbehaviors occur in their physical education class on a 5-point Likert scale, ranging from 1 (never) to 5 (always). The Chinese version of PECI-S has reported good levels of internal consistency; the alpha coefficients of the five subscales ranged from 0.75 to 0.89; and evidence of its factorial, convergent, and concurrent validity has been shown in a previous study (Wu et al., 2016).

Moral Disengagement in Physical Education: The Moral Disengagement in Sport Scale—Short (MDSS-S; Boardley and Kavussanu, 2008) was used to measure students' moral disengagement in a physical education context. This scale includes eight items (e.g., "Insults among classmates do not really hurt anyone"). Participants were asked to rate each item on a 7-point Likert scale, ranging from 1 (strongly disagree) to 6 (strongly agree). The original MDSS-S was developed in English, and standardized translation and back-translation methods were used to ensure the content validity of the Chinese MDSS-S. Two English experts conducted the back-translation procedure for the Chinese MDSS-S. The translations established structural and item equivalency for both the Chinese and English versions. In addition, the wording of the MDSS-S was changed slightly to suit the physical education context. In this study, the confirmatory factor analysis (CFA) model indicated that the hypothesized factor structure provided an acceptable fit (TLI = 0.95; CFI = 0.94; RMSEA = 0.07; SRMR = 0.06). The Cronbach's alpha coefficient value was 0.86.

Data analysis

In this study, we collected two types of data. The data collected in the first stage were used to examine the relationship between students' negative behaviors and achievement goals. The data collected in the second stage were used to examine the mediation effect of moral disengagement on the relationship between achievement goals and negative behaviors. After the returned questionnaires were reviewed, incomplete questionnaires and responses that included the same score for all items were excluded from the data analysis. In the preliminary analysis, all data were subjected to accuracy screenings and descriptive analyses. To address the research questions, we conducted structural equation modeling with maximum likelihood estimation using the AMOS 18.0 program. To determine the statistical significance of the mediated pathways, the bootstrapping approach described by Preacher and Hayes (2008) was implemented in the current study.

Results

First stage

In the first stage of this study, we used structural equation modeling to examine whether students' performance-approach and performance-avoidance goals would positively predict their negative behaviors in physical education classes (i.e., aggressive behavior, low engagement, failure to follow directions, poor self-management, and distracting behavior) and whether their mastery-approach and mastery-avoidance goals would negatively predict their misbehaviors across five dimensions.

Raw models

Table 1 shows the means, standard deviations, and correlation coefficients for various variables. The skewness (-0.35–-0.98) and kurtosis (-0.65–-1.46) were between -2 and +2 and met the normal distribution assumption (Marshall and Mardia, 1985). Therefore, the maximum likelihood method was appropriate for testing the model. Regarding testing the measurement models, Jöreskog and Sörbom (1989) suggested that, after standardization, items with high residual values or low factor loadings should be removed and that items with a factor loading of greater than 0.45 should be retained. In addition, the average

Table 1.Means, SDs, reliability coefficients, and correlations (the first stage).

	1	2	3	4	5	6	7	8	9
1. MAp		.21*	.28*	-.11*	-.07	-.24*	-.18*	-.17*	.03
2. MAv			.19*	.22*	.04	-.03	-.06	-.05	.04
3. PAp				.17*	.34*	.24*	.28*	.19*	.35*
4. PAv					.28*	.20*	.24*	.23*	.24*
5. AG						.54*	.53*	.55*	.69*
6. LE							.56*	.51*	.50*
7. FF								.58*	.51*
8. PS									.64*
9. DI									
Mean	4.07	3.85	3.26	3.18	2.54	2.37	2.41	2.18	2.70
SD	.77	.85	.88	.98	1.05	.96	1.04	1.15	1.03
Cronbach's α	.88	.75	.82	.86	.85	.87	.85	.74	.83

MAp: mastery-approach goals; MAv: mastery-avoidance goals; PAp: performance-approach goals; PAv: performance-avoidance goals; AG: aggressive; LE: low engagement; FF: fails to follow directions; PS: poor self-management; DI: distracts. * Correlation is significant at the 0.05 level.

variance extracted (AVE) for each dimension should be greater than 0.50, and the composite reliability should be greater than 0.60 (Bagozzi and Yi, 1988). The results showed that the factor loadings for all items were greater than 0.45 and that the AVE and composite reliability were greater than the recommended values.

Regarding structural equation modeling, in accordance with Jackson, Gillaspy, and Purc-Stephenson (2009), we used the comparative fit index (CFI), the root mean square error of approximation (RMSEA), the Tucker–Lewis index (TLI), and the standardized root mean square residual (SRMR) as model fit indices. The acceptable ranges of the various indices are as follows: CFI > 0.90, RMSEA < 0.08, TLI > 0.90, and SRMR < 0.08 (Browne and Cudeck, 1993; Byrne, 2001; Marsh, Hau, and Wen, 2004). The analysis showed that the hypothesized structure did not display an adequate fit with the data (TLI = 0.84; CFI = 0.85; RMSEA = 0.10; SRMR = 0.10). Regarding the path analysis (*p < 0.05), the standardized path coefficients between mastery-approach goals and aggressive behavior, low engagement, failure to follow directions, poor self-management, and distracting behavior were -0.08, -0.40*, -0.31*, -0.27*, and 0.09, respectively; the standardized path coefficients between mastery-avoidance goals and aggressive behavior, low engagement, failure to follow directions, poor self-management, and distracting behavior were 0.06, -0.02, -0.07, -0.01, and -0.01, respectively; the standardized path coefficients between performance-approach goals and aggressive behavior, low engagement, failure to follow directions, poor self-management, and distracting behavior were 0.18*, 0.08, 0.06, 0.01, and 0.14*, respectively; and the standardized path coefficients between performance-avoidance goals and aggressive behavior, low engagement, failure to follow directions, poor self-management, and distracting behavior were 0.17*, 0.37*, 0.28*, 0.45*, and 0.22*, respectively. According to the results, this model required some modifications.

Revised models

In accordance with the raw model analysis, the model was modified, and all insignificant paths were removed. First, the paths between mastery-approach goals and aggressive and distracting behaviors were removed. Second, the paths between mastery-avoidance goals and all five misbehaviors were insignificant; thus, the five paths and the variable (mastery-avoidance goals) were removed. Finally, the paths between performance-approach goals and

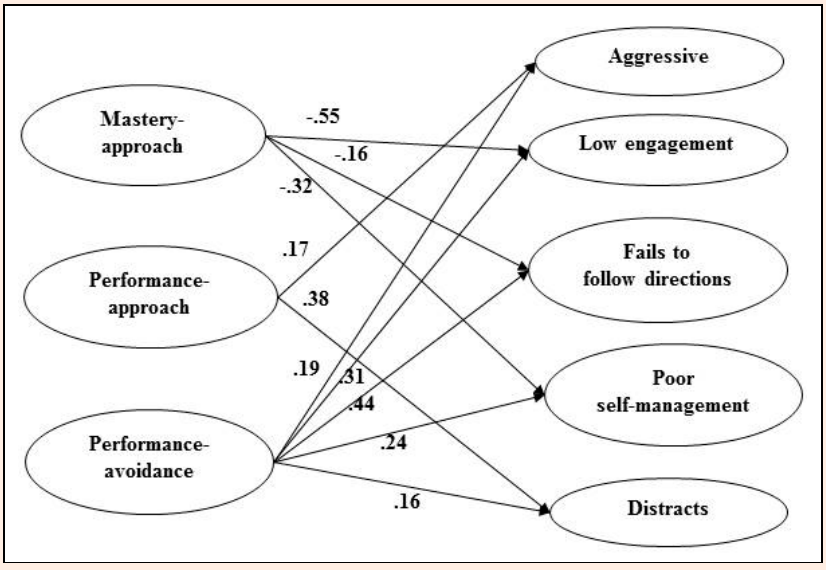

Figure 1. Final structural model with standardized path coefficients (the first stage).

Table 2. Means, SDs, reliability coefficients, and correlations (the second stage).

	1	2	3	4	5	6	7	8	9	10
1. MAp		.39*	.35*	-.18*	-.02	-.18*	-.21*	-.15*	.08	.05
2. MAv			.29*	.28*	.04	-.03	-.06	-.02	.04	.01
3. PAp				.33*	.44*	.34*	.28*	.17*	.25*	.44*
4. PAv					.48*	.30*	.24*	.28*	.28*	.38*
5. AG						.44*	.53*	.42*	.49*	.39*
6. LE							.56*	.53*	.52*	.26*
7. FF								.48*	.44*	.18*
8. PS									.54*	.19*
9. DI										.25*
10. MD										
Mean	3.88	4.05	3.38	3.11	2.76	2.45	2.49	2.08	2.58	3.46
SD	.85	.82	.77	.90	.85	.92	1.12	.94	1.07	.89
Cronbach's α	.85	.80	.79	.84	.85	.83	.82	.78	.81	.86

MAp: mastery-approach goals; MAv: mastery-avoidance goals; PAp: performance-approach goals; PAv: performance-avoidance goals; AG: aggressive; LE: low engagement; FF: fails to follow directions; PS: poor self-management; DI: distracts; MD: moral disengagement. * Correlation is significant at the 0.05 level.

low engagement, failure to follow directions, and poor self-management were removed. Because the achievement goals were generally complementary constructs (Krech et al., 2010), mastery-avoidance goals, performance-approach goals, and performance-avoidance goals were allowed to be correlated. In addition, consistent with the assertion of Krech et al. (2010) that student misbehaviors are conceptualized as mutually correlated, we calculated the residual covariance between aggressive and distracting behaviors and the residual covariance between low engagement, failure to follow directions, and poor self-management. After this analysis, an examination of the indices of fit suggested the modified model adequately fit the data (TLI = 0.94; CFI = 0.95; RMSEA = 0.07; SRMR = 0.06). Figure 1 illustrated the standardized path coefficients for the revised model. In the revised model, all paths were significant; therefore, this model was valid.

Second stage

In this study, the second stage was based on the model established in the first stage. We examined whether moral disengagement mediated achievement goals and misbehaviors. Because the sample in the second stage differed from that in the first stage, we first present the results related to the descriptive statistics and measurement models and then describe the results related to the structural models and the mediation effect.

Model testing

Table 2 shows the means, standard deviations, and correlation coefficients for various variables. For all the items, the skewness (-0.42–-1.14) and kurtosis (-0.53–-1.36) were between -2 and +2 and met the normal distribution assumption (Marshall and Mardia, 1985). Regarding testing the measurement models, the factor loadings for all the items were greater than 0.45; the AVE values were greater than 0.50; and the composite reliability values were greater than 0.60. Thus, all met the suggested

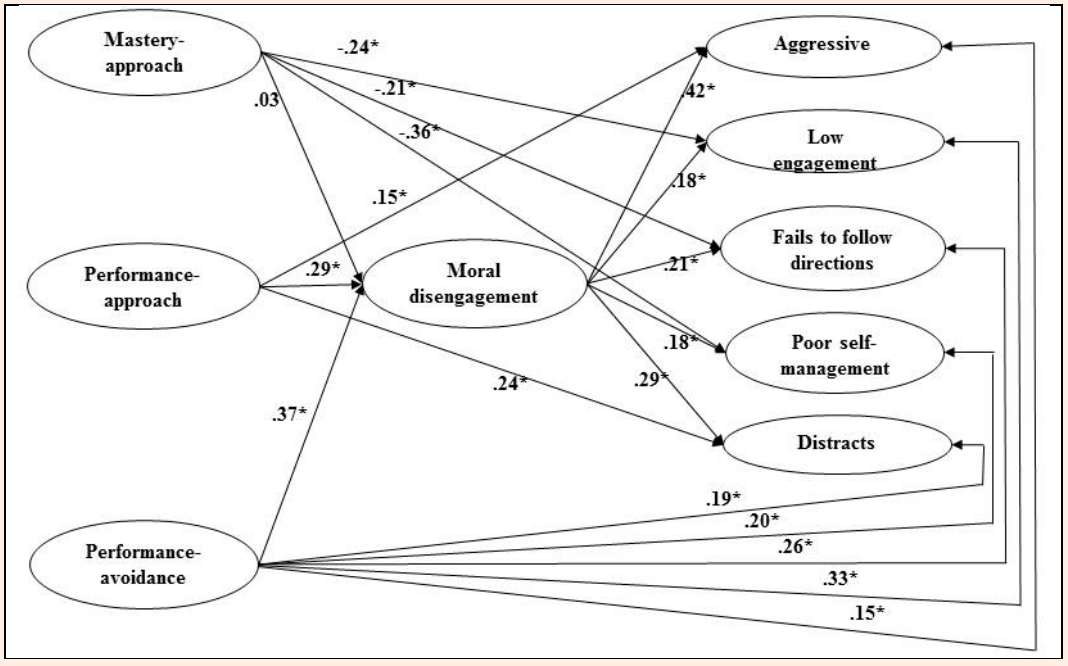

Figure 2. Structural model with standardized path coefficients (the second stage).

Table 3. Analyses of mediation effects.

	Indirect effects	95% confidence interval			Indirect effects	95% confidence interval	
		Lower	Upper			Lower	Upper
MAp → LE	-.01	-.02	.05	**PAv → AG**	.14	.06	.22
MAp → FF	-.01	-.01	.03	**PAv → LE**	.07	.02	.17
MAp → PS	-.01	-.04	.06	**PAv → FF**	.08	.01	.19
PAp → AG	.05	.02	.14	**PAv → PS**	.07	.03	.15
PAp → DI	.05	.02	.12	**PAv → DI**	.11	.05	.19

MAp: mastery-approach goals; PAp: performance-approach goals; PAv: performance-avoidance goals; AG: aggressive; LE: low engagement; FF: fails to follow directions; PS: poor self-management; DI: distracts.

criteria (Bagozzi and Yi, 1988; Jöreskog and Sörbom, 1989). Similar to the first stage, we added paths among mastery-avoidance goals, performance-approach goals, and performance-avoidance goals. In addition, we allowed the residuals of aggressive and distracting behaviors to be correlated, and we allowed the residuals of low engagement, failure to follow directions, and poor self-management to be correlated. The analysis showed that the hypothesized structure did not display a sufficient fit with the data (TLI = 0.96; CFI = 0.95; RMSEA = 0.06; SRMR = 0.06). As shown in Figure 2, the path analysis results (*p < 0.05) showed that the standardized path coefficients between mastery-approach goals and moral disengagement, low engagement, failure to follow directions, and poor self-management were 0.03, -0.24*, -0.21*, and -0.36*, respectively; the standardized path coefficients between performance-approach goals and moral disengagement, aggressive behavior, and distracting behavior were 0.29*, 0.15*, and .024*, respectively; the standardized path coefficients between performance-avoidance goals and moral disengagement, aggressive behavior, low engagement, failure to follow directions, poor self-management, and distracting behavior were 0.37*, 0.19, 0.20*, 0.26*, 0.35*, and 0.15*, respectively; and the standardized path coefficients between moral disengagement and aggressive behavior, low engagement, failure to follow directions, poor self-management, and distracting behavior were 0.42*, 0.18*, 0.21*, 0.18*, and 0.29* respectively.

Mediation effect

To determine whether the mediated pathways were statistically significant, a bootstrapping approach was used to calculate indirect effects and their 95% confidence intervals. When the 95% confidence intervals are significantly different from 0, indirect effects are regarded as significant. First, as shown in Table 3, the paths between mastery-approach goals and low engagement, failure to follow directions, and poor self-management were not significant, indicating that moral disengagement did not have a mediation effect. Second, the paths between performance-approach goals and aggressive and distracting behaviors were significantly different from zero, indicating that moral disengagement played a mediating role. Finally, the five paths between performance-avoidance goals and aggressive behavior, low engagement, failure to follow directions, poor self-management, and distracting behavior were significantly different from zero, indicating that moral disengagement had a mediation effect.

Discussion

Studies conducted in the physical education context found that misbehaviors would not only impede teaching quality but also the learning of peers (Cothran et al., 2009; Kulinna et al., 2006). Therefore, student misbehaviors in physical education have been viewed as an important study issue. Agbuga et al. (2010) used a trichotomous model to examine the relationships between students' achievement goal orientations and misbehaviors. The study further examined the relationship between the 2 × 2 achievement-goal orientation framework and student misbehaviors based on previous findings. The mediating effects of moral disengagement on the relationship between these two factors were also examined.

2 × 2 achievement-goal orientation framework and misbehaviors

The findings showed mastery-avoidance goals were unable to predict the following misbehaviors: aggressive behavior, low engagement, failure to follow directions, poor-self-management, and distracting behavior. Mastery-approach goals were capable of negatively predicting low engagement, failure to follow directions, and poor self-management. Performance-approach goals positively predicted aggressive and distracting behaviors, while performance-avoidance goals positively predicted all five misbehaviors in the study.

Some details of the results should be addressed further. First, mastery-avoidance goals do not negatively predict misbehaviors, which is inconsistent with the hypothesis of the present study. Individuals oriented toward mastery-avoidance goals will follow the internalized reference standard; however, their learning goals mainly focus on not demonstrating their personal criteria or task-related incapability; that is, they want to avoid performing worse than they did previously, losing skills, and making mistakes (Elliot, 1999; Elliot and McGregor, 2001). Wang et al. (2007) found mastery-avoidance goals and enjoyment are positively correlated with a higher sense of autonomy, competence, relatedness, and efforts in their study on youth physical education. Nonetheless, students who pursue mastery-avoidance goals may devote themselves to not "performing worse than before" when they encounter new challenges or tasks; this process is not necessarily related to misbehaviors. In particular, this process is even less connected to peer-interfering misbehaviors, such as aggressive or distracting behaviors. Therefore, the result of the present study showed mastery-avoidance goals could not predict misbehaviors.

Second, the results showed mastery-approach goals negatively predicted low engagement, failure to follow directions, and poor self-management, which sup-

ports the hypothesis. According to Agbuga et al. (2010), students who endorsed the mastery goal were less likely to demonstrate nonparticipation behaviors than students who did not endorse this goal, which suggests that mastery goals may lead to a reduction in low engagement among students. The findings of the present study extend those of the Agbuga et al. (2010) by confirming that mastery-approach goals are the predictive factor for misbehaviors, such as low engagement. Furthermore, mastery-approach goals could not predict aggressive and distracting behaviors. Compared with low engagement, failure to follow directions, and poor self-management, aggressive and distracting behaviors would be harmful to or impede the well-being of others. The findings of the present study suggest that students with high mastery-approach goals demonstrate fewer self-related misbehaviors, while the level of mastery-approach goals had no connection with misbehaviors toward others (e.g., aggressive behavior).

Third, performance-approach goals positively predicted aggressive and distracting behaviors, which confirmed the hypothesis of the present study that students may demonstrate other-related misbehaviors when they are oriented toward performance-approach goals. Self-related misbehaviors, such as low engagement, were not linked to performance-approach goals. As Li et al. (2005) argued, individuals oriented toward performance-approach goals usually have better sports skills and are tougher and more competitive. Hence, this kind of individual is more likely to display behaviors such as aggressive and distracting behaviors. Nonetheless, performance-approach goals are also positively related to positive behaviors, including the efforts and practices suggested in previous studies suggested (see Elliot and Moller for a review, 2003). This positive relationship may explain why the results of the present study show that performance-approach goals cannot positively predict low engagement, failure to follow directions, and poor self-management. By contrast, individuals oriented toward performance-approach goals may actively participate in activities during class to beat their peers. However, Elliot and Moller (2003) showed that, although performance-approach goals may be related to some positive outcomes, if individuals' goals revolve around comparing themselves to others, these goals may stifle intrinsic motivation and enjoyment, thus having negative effects.

Finally, performance-avoidance goals positively predicted all five misbehaviors—aggressive behavior, low engagement, failure to follow directions, poor self-management, and distracting behavior—which is consistent with the hypothesis of the present study. Individuals with performance-avoidance goals are suggested to potentially not only have self-related misbehaviors but also demonstrate misbehaviors that influence others during class. In addition, this finding followed the theoretical prediction of the trichotomous model (Elliot and Moller, 2003) and the 2 × 2 achievement goal framework (Moller and Elliot, 2006) that performance-avoidance goals were related to negative outcomes. According to Chen et al. (2009), the negative focus of performance-avoidance goals may cause students to experience anxiety, social-evaluative threat and shame in physical education.

Performance-avoidance-focused individuals may adopt certain strategies, such as skipping practice or interfering the learning of peers, to prevent themselves from being viewed as incompetent. Thus, the present study showed all the misbehaviors of students in physical education can be positively predicted by performance-avoidance goals.

The mediation effects of moral disengagement

The mediation effects of moral disengagement on the relationship between achievement goals and misbehaviors were examined. The present study indicated the positive relationship between mastery-approach goals and misbehaviors was not mediated by moral disengagement. By contrast, the hypothesized model was supported, thereby providing empirical evidence for the mediating role of moral disengagement in the positive relationship between performance-approach goals and misbehaviors and in the positive relationship between performance-avoidance goals and misbehaviors. The results of the present study are consistent with the findings of Boardley and Kavussanu (2010), who found that moral disengagement only played a mediating role in the relationship between performance goals and misbehaviors—not in the relationship between mastery goals and misbehaviors. The results suggest that students in physical education will disengage from or discontinue their self-monitoring on misbehaviors through the psychosocial mechanism of moral disengagement but that their goal orientations will weaken the levels of moral disengagement.

The present study enhances our knowledge acquired from previous studies (Agbuga et al., 2010; Boardley and Kavussanu, 2008; 2009; 2010). First, the mediation of moral disengagement in the relationship between achievement goals and misbehaviors exists not only in the sports context but also in physical education at school, as indicated in this study. Second, past studies have found that moral disengagement plays a mediating role between performance goals and misbehaviors. The present study also discovered that both performance-approach and performance-avoidance goals are antecedents of moral disengagement. Lastly, previous studies focused on antisocial behaviors, while the present study concluded that moral disengagement should also be considered both a personal factor and a social factor that influences misbehaviors, suggesting the impact of moral disengagement is not limited to antisocial behaviors. Students in physical education may also attempt to lift particular restrictions through moral disengagement; therefore, they demonstrate self-related misbehaviors, such as distracting behavior and laziness.

Limitations and future directions

There are several limitations in this study. First, the data collected in the study were cross-sectional in natural; therefore, the direction of causality could not be identified. Future research may adopt a longitudinal approach or a quasi-experimental design to ascertain the causal patterns among achievement goals, moral disengagement, and misbehaviors. Furthermore, participants in this study were all high school students in Taiwan. Hence, these

findings should be cautiously interpreted when considering different age groups or cultural backgrounds. The conclusions of the present study may be reinforced by examining diverse samples in the future. Finally, moral disengagement was viewed as a single concept, and its individual mechanisms were not examined in the study. Nonetheless, such effects can be produced by only a few mechanisms in moral disengagement (e.g., advantageous comparisons and displacement of responsibility); hence, we suggest that future research examine eight individual mechanisms in moral disengagement.

Conclusion

This two-study project provided important insights into the relationships among students' 2 × 2 achievement goals, moral disengagement, and misbehaviors in physical education. Mastery-avoidance goals could not predict the five misbehaviors, while mastery-approach goals negatively predicted low engagement, failure to follow directions, and poor self-management. By contrast, performance-approach goals positively predicted other-related misbehaviors (i.e., aggressive and distracting behaviors), while performance-avoidance goals positively predicted all five misbehaviors. Teachers need to understand that performance-approach and performance-avoidance goals may lead to elevated levels of misbehaviors in physical education. Therefore, physical education teachers should stress particular concepts, for instance, not being afraid of failure and understanding that the process is more important than the outcomes. Students should also be encouraged to set their goals in terms of advancing themselves instead of beating others. In addition, the currently adopted sports education model frequently attempts to build up students' morale and motivations to participate by dividing them into groups and arranging team competitions. During this process, physical education teachers should pay more attention and encourage students who perform relatively poorly. Teachers should also discourage students from attributing undesirable competition outcomes to peers who perform poorly to prevent the formation of performance-avoidance goal orientations. The positive relationships between performance-approach goals and misbehaviors and between performance-avoidance goals and misbehaviors were mediated by moral disengagement. Students who endorse performance-approach and performance-avoidance goals should be kept from using moral disengagement to free themselves from self-monitoring. Some strategies should be deployed to eliminate students' use of moral disengagement. For instance, students can be reminded that small indiscretions can result in severe consequences, and they can be pushed to always take full responsibility for their actions.

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Key points

- Mastery-approach goals negatively predicted low engagement, fails to follow directions, and poor self-management. Performance-approach goals positively predicted aggressive and distracts.
- The positive relationship between performance-approach goals and misbehaviors, as well as the positive relationship between performance-avoidance goals and misbehaviors were mediated by moral disengagement.

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