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# The influence of achievement goal orientation on plagiarism

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ABSTRACT

This investigation considered how undergraduate students with different achievement goal orientation profiles view plagiarism. Thai student volunteers ($N=867$) completed an achievement goal survey [Niemivirta, M. (1998). Individual differences in motivational and cognitive factors affecting self-regulated learning — A pattern-oriented approach. In P. Nenninger, R. S. Jäger, A. Frey, & M. Woznitza (Eds.), *Advances in motivation* (pp. 23–42). Landau, DE: Verlad Empirische Pädagogik] and a "Dimensions of Plagiarism" survey [Koul, R. (2007). *Dimensions of Plagiarism*. Downloaded April 8, 2008 from http://dimensions-of-plagiarism.wikispaces.com/]. Mixed analysis of variance of attitudes towards plagiarism with goal orientation and gender showed several significant findings: high performance oriented students were substantially stricter than low performance orientated students in evaluating all Dimensions of Plagiarism. Low mastery oriented students were stricter regarding the "motive" dimension of plagiarism while high mastery oriented students were stricter regarding the "source" dimension of plagiarism. Significant differences between females and males were observed across the six factors of the Dimensions of Plagiarism survey. These results are interpreted within the framework of social comparison theory in respect to competitive learning environments.



## 1. Introduction

For quite some time Thai media has reported about cheating as a major educational problem and a broad social concern. For example, in May 2003, the *Bangkok Post* reported a study entitled *Rien Yang Sien* (Mastering Deceitful Studying) conducted by researchers from Chulalongkorn University in Bangkok (Sukrung, 2003). According to Piyanand Jittikornyutthana, one of the six researchers on this study, many students in Thailand's highly competitive society cheat their way through college to graduation to careers. Recently, *Bangkok Post* carried a report that Thai Buddhist institutes condone monks cheating in exams (Visalo, 2008).

Why do students do what they do? Why collaborate? Why help others? Why cheat? The focus of this investigation is plagiarism. Achievement goal theory provides a lens and a set of tools (Midgley, Kaplan, & Middleton, 2001; Midgley & Urdan, 2001) which we use to examine plagiarism within a Thai educational context.

What is plagiarism? Plagiarism is a form of cheating by taking credit for another's intellectual work and a form of theft. This definition seems clear, but understandings of whether a particular circumstance or event should be considered as plagiarism may vary across cultures and societies. Hall (1976) has described eastern cultures (including much of the Middle East, Asia, Africa, and South-America) and western cultures (including North America and much of the Europe) using the idea of "context" which refers to the framework, background, and surrounding circumstances in which an event takes place. Western societies are generally "low context" societies—people play by external rules (e.g., honor codes against plagiarism); decisions are based on logic, facts, and directness. Eastern societies are generally "high context" societies—people exhibit strong emphasis on relational concerns; decisions are based on personal relationships. Nisbett, Peng, Choi, and Norenzayan (2001) have suggested that differences between westerners and easterners may arise from people being socialized into different worldviews, cognitive processes and habits of mind. In this respect, westerners are likely to have an "individualistic orientation" and tend to use rules and categories as a basis for organizing the events in their environment (analytic worldview). Easterners are likely to have a "relationship orientation" and tend to organize their world in terms of relationships among events in their environment (holistic worldview). In a "relationship oriented" society, social comparisons (what others think of oneself and how others act in relation to oneself) are a significant cultural motive. Thai society is a high context, "relationship orientated" society in which there is a strong cultural motive to maintain reciprocity (called *Bunkhun* in Thai, which means being constantly, consciously aware of the benefit of both giving and receiving favors (Komin, 1991)).

A food as information metaphor may help to clarify cultural differences in attitudes towards plagiarism. During a cross-cultural preservice training exercise on classroom cheating for Peace Corps teachers, a trainer brings a big steaming bowl of popcorn into the training room midway through the session and proceeds to eat it in

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front of everyone, but not sharing it. It smells wonderful and the trainer openly gloats in having it all to himself. Of course, everyone's attention turns to this. One individual comments that not sharing the popcorn is rude. Likewise, isn't not sharing a test answer with your best friend also rude? Another comments that if you have plenty of popcorn, more than you can eat alone, why not share it? If popcorn was information, and you have lots of it, and it costs nothing to give it away, then why not give it away, especially to your friends, family, and clan? In most cultures the aged are respected because their freely given knowledge and wisdom are resources for the community at large.

After the trainees talk for a while, the trainer offers to sell popcorn to them kernel by kernel. Someone comments that this is worse than rude. Someone else contends that if information is, in fact, a commodity like the popcorn that is owned and hoarded by an individual, then selling it bit by bit is a right of ownership. Isn't that so? Ong (1982) points out that a primary oral culture depends on a common shared store of information. The western view of information as a commodity did not exist until after the printing press was invented around 1450, then western culture allowed typography to make the word into a commodity.

A belief that we have more ownership of information than we have paid for (perhaps not by the letter of the law, but through the spirit of it) may influence attitude towards plagiarism. Close or distant personal relationship is likely to be a factor in what is regarded as plagiarism. We may expect friends to share information but we would not necessarily expect strangers to do so. If the need is regarded as great enough, theft is sometimes allowed. The motive matters when describing plagiarism. And as a result of the primacy of relationship orientation, motives may be especially critical to personal attitudes towards plagiarism in eastern cultures.

Whether copying is regarded as plagiarism is influenced not only by *motive*, but also the particular *source* of the material. The concept of plagiarism requires that there be an 'author' from whom the material is copied. Having a relationship with that author, for example a close friend or confidant versus an unknown or distant expert or source, has implications for whether the act of copying is regarded as plagiarism. Depending on how you view the act you might, for example, 'borrow' from a friend but not from a stranger. Also, students who would plagiarize would likely consider the cost/benefit of each action. Thus 'source' is likely to be a factor in determining whether plagiarism has occurred or how severe the plagiarism is.

Current literature on plagiarism is generally western oriented and seems more practically oriented than theoretical. Instructors writing about plagiarism seem to view it more as a violation of trust and of relationship norms rather than as literal theft, and such writing is often emotionally charged. Institutionally, however, plagiarism is regarded as theft and is handled much like property theft would be handled. In fact, plagiarism by academic faculty may be the only universal capital offense.

Anecdotal reports and a large assortment of university policy guides list various reasons for student plagiarism with examples and consequences. These documents are representative sources of information about why students plagiarize and what students believe about it (DeVoss & Rosati, 2002; McCabe, Trevino, & Butterfield, 2001; Midgley & Urdan, 2001; Pintrich, 2000; Starr, 2002). For example, McCabe et al. (2001) note that individual factors (e.g., gender, GPA, work ethic, self-esteem), institutional factors (e.g., faculty response to cheating, sanction threats, honor codes) and contextual factors (e.g., peer cheating behavior, peer disapproval of cheating behavior, perceived severity of penalties for cheating) influence cheating behavior. Starr (2002) says:

> One of the most common reasons students plagiarize is because they feel overwhelmed…. Students engage in plagiarism for a number of other reasons as well, including: fear of asking for help with assignments, difficulty in finding and analyzing research materials, belief that unfair or unsympathetic treatment from a professor justifies cheating, or they get trapped into searching for the "one right answer." Unfortunately, a small number of students plagiarize out of laziness or surrender to the mistaken notion that "buying" a paper is not any different than paying for an education. (p. 3)

Taking into consideration a broad sweep of "rationales" such as those excerpted above, a 23-item plagiarism survey was developed for the investigation presented in this paper, with about half of the items addressing *motive* and about half addressing *source*.

## 2. Achievement goal orientation and plagiarism

According to socio-cognitive theories, an individual's pursuit of a goal creates a framework for interpreting and responding to events that occur or may likely occur, producing associated patterns of cognition, affect, and behavior (Dweck & Leggett, 1988; Schunk, Pintrich, & Meece, 2008). Schunk et al. (2008) have described two achievement goal orientations: *A performance orientation*, which refers to a focus on how one's competence or ability will be judged relative to others, striving to be perceived as the best in the group, avoiding judgments of low ability or appearing stupid, and seeking public recognition; *A mastery orientation*, which refers to a focus on learning according to self-set standards, developing new skills, improving competence, trying to accomplish something challenging (p. 184). Students with a performance orientation primarily focus on appearing to be the best in comparison with others; students with a mastery orientation primarily focus on improving their own level of competencies.

Anderman and Midgley (2004) applied achievement goal theory to self-reported classroom cheating for students moving from 8th to 9th grade. They observed that moving to a relatively less mastery oriented classroom climate or to a relatively higher performance oriented classroom climate increases cheating behavior; while moving to a possible higher mastery oriented classroom climate decreases cheating behavior.

Anderman and Midgley's (2004) findings about cheating may directly contribute to our understanding of motives for plagiarism. As with cheating, intentional plagiarism, by western standards, is a maladaptive strategy, less likely to be observed in students with a high mastery orientation. Plagiarism could however be viewed as an adaptive strategy for an individual with performance orientation whose goal is to maximize scores. From this perspective, plagiarism should be viewed more positively by individuals with a performance achievement goal orientation but negatively by individuals with a mastery achievement goal orientation (Anderman & Midgley, 2004).

National cultural norms set the boundaries which allow a range of possible classroom climates (Chang, 1999; Shih & Alexander, 2000). Chang (1999) and Shih and Alexander (2000) note that in Taiwanese classrooms, social comparison is more emphasized than self-comparison. These researchers found that Asian students and teachers experience pleasure from an intense atmosphere of competition. If a competitive classroom climate combined with the strong "ego" orientation and *Bunkhun* or relationship orientation among Thais (Fieg, 1989; Komin, 1991) support a particular goal orientation, then this should influence general attitudes towards what is considered to be plagiarism. If plagiarism is considered within differential socialization theory of gender differences in moral reasoning, it may be expected that men would report more favorable attitudes toward cheating behavior than women (see Whitley, Nelson, & Jones, 1999). If this is so, gender socialization patterns may influence individual responses to specific acts (e.g., Ward & Beck, 1990).

The analysis of data presented in this paper considers how the motive and source Dimensions of Plagiarism vary for males and females as a function of goal orientation. Following Pintrich's (2000)

'person-centered' analysis method, participants were grouped in a 2×2 matrix of performance and mastery achievement goal orientations using median split of the performance and mastery scores. The four groups established by this matrix are high mastery/high performance, high mastery/low performance, low mastery/high performance, and low mastery/low performance (see Table 1). These groupings allowed us to consider whether attitudes towards what constitutes plagiarism vary by achievement goal orientation profile and by gender.

## 3. Method

### 3.1. Participants

The volunteer participants in this study were undergraduate students enrolled in a public university near Bangkok, Thailand. More than 98% of the responses to the survey were completed. The final sample for analysis consisted of 867 students, 55.1% male and 44.9% female, mostly 3rd year students majoring in Industrial Education and Technology (category 11).

### 3.2. Dimensions of Plagiarism survey measure

The Dimensions of Plagiarism survey questionnaire was developed in Thai by Koul (2007) by selecting from both specific and broad student "rationales" for plagiarism that have been mentioned in previous studies and examples from classroom experiences. The final survey consisted of 23 items that used a 5-point response scale from strongly disagree (1) to strongly agree (5). The survey asked students to evaluate each of the 23 circumstances described in the survey and indicate whether the teacher should regard an action as plagiarism. A larger value indicates the respondent more strongly agrees that the action constitutes plagiarism, and is referred to in the results as "stricter". Using the data collected in this investigation, exploratory factor analysis was conducted with SPSS version 17.0 using principal components on the correlation matrix of associations with the factor extraction rule based on eignevalues greater than 1. Principal components were used since it obtained a larger proportion of variance (e.g., 65.3%) compared to principal axis factoring (53.7%). Both orthogonal (Varimax) and oblique rotations (direct Oblimin, with *delta* set at +.5, 0, and −5, note that delta at +.5 did not converge) were conducted. Both rotation approaches grouped the survey items into the same six factors, and although the oblique rotation sum of square loadings was a little better than those for the orthogonal, the orthogonal solution is reported here since it is adequate and SPSS provides more summary information (see Table 2, table format based on Henson & Roberts, 2006). The factor analysis of this survey revealed six factors that we refer to as "Dimensions of Plagiarism" that include three *Motive* factors — Factor 1: excuses, Factor 2: embarrassment, and Factor 6: the need to be correct; and three *Source* factors — Factor 3: known personal source, Factor 4: near instructional source, and Factor 5: distant instructional source. Note that Factor 6 is a hybrid factor with both a motive item (need to be correct) and a source item (international expert).

**Table 1**
Group sample sizes.

| Profile | Female | Male | Female (%) | Male (%) | Total |
|---|---|---|---|---|---|
| hiM/hiP | 107 | 133 | 44.6 | 55.4 | 240 |
| hiM/loP | 82 | 104 | 44.1 | 55.9 | 186 |
| loM/hiP | 89 | 112 | 44.3 | 55.7 | 201 |
| loM/loP | 111 | 129 | 46.3 | 53.8 | 240 |
| Total | 389 | 478 | 44.9 | 55.1 | 867 |

**Table 2**
Factor pattern structure matrix rotated to the Varimax criterion.

| Item survey order with synopsis | Factor 1 | Factor 2 | Factor 3 | Factor 4 | Factor 5 | Factor 6 | $h^2$ |
|---|---|---|---|---|---|---|---|
| 12. … under stress | 0.81 | – | – | – | – | – | 0.73 |
| 11. … heavy workload | 0.79 | – | – | – | – | – | 0.70 |
| 13. … little time | 0.77 | – | – | – | – | – | 0.66 |
| 10. … sick | 0.71 | – | – | – | – | – | 0.58 |
| 14. … nothing to add | 0.61 | – | – | – | – | – | 0.52 |
| 9. … caring for his family | 0.49 | – | – | – | 0.35 | – | 0.47 |
| 22. … won't look stupid | – | 0.86 | – | – | – | – | 0.85 |
| 21. … won't embarrass self | – | 0.83 | – | – | – | – | 0.79 |
| 23. … won't embarrass family | – | 0.81 | – | – | – | – | 0.77 |
| 17. … from friend | – | – | 0.77 | – | – | – | 0.75 |
| 16. … from senior student | – | – | 0.76 | – | – | – | 0.67 |
| 18. … from intelligent student | – | – | 0.59 | – | – | 0.46 | 0.67 |
| 8. … from group member | – | – | 0.55 | – | – | – | 0.50 |
| 15. … from someone paid | 0.43 | 0.33 | 0.47 | – | – | – | 0.60 |
| 4. … from another student | – | – | 0.43 | 0.48 | – | – | 0.56 |
| 1. … from a textbook | – | – | – | 0.82 | – | – | 0.73 |
| 2. … from teacher handout | – | – | – | 0.76 | – | – | 0.69 |
| 3. … from a web-site | – | – | – | 0.74 | – | – | 0.66 |
| 7. … from unknown source | – | – | – | – | 0.73 | – | 0.60 |
| 5. … from local expert | – | – | – | – | 0.73 | – | 0.65 |
| 6. … from a library resource | – | – | – | 0.40 | 0.51 | 0.45 | 0.64 |
| 20. … to get the right answer | – | – | – | – | – | 0.77 | 0.65 |
| 19. … from an international expert | – | – | – | – | 0.37 | 0.61 | 0.60 |
| trace (eigenvalues) | 3.64 | 2.59 | 2.58 | 2.55 | 1.87 | 1.79 | 15.01 |
| % of variance | 15.8% | 11.3% | 11.2% | 11.1% | 8.1% | 7.8% | 65.3% |

$h^2$ — communality coefficient, only values greater than .3 are shown.

### 3.3. Achievement goal orientation measure

The achievement goal orientation measure was based on the Finnish to English translation of an instrument that was developed and validated by Niemivirta (1998). Following analysis of data from a pilot study, our instrument for this investigation consisted of a translation of four "mastery" items and four "performance" items from English to Thai. The items used a 5-point scale from strongly disagree (1) to strongly agree (5), with larger values indicating a stronger orientation (i.e., no negatively worded items). After data collection, the factor analysis of these eight achievement goal items properly grouped into the four "mastery" and four "performance" oriented items.

Following the methodology of Harackiewicz, Barren, and Elliot (1998) who examined the effects of performance goals independently from the effects of mastery goals, we used orthogonal contrast of performance orientation compared with mastery orientation to examine multiple goal profiles (Midgley, Kaplan, & Middleton, 2001). Median split of mastery orientation (with 4 items and 20 maximum, low mastery is 16 and below and high mastery is 17 and above) and of performance orientation (with 4 items and 20 maximum, low performance is 13 and below and high performance is 14 and above) scores was used to separate students into low and high groupings creating four profiles: high mastery/high performance (hiM/hiP), high mastery/low performance (hiM/loP), low mastery/high performance (loM/hiP), and low mastery/low performance (loM/loP). The median split resulted in relatively more students in the high/high and low/low profiles (see Table 2).

## 4. Results

The group averages on the Dimensions of Plagiarism survey are shown in Table 3 arranged according to the order determined by factor analysis (refer back to Table 2). These means from Table 3 are also displayed in Fig. 1. Noting that larger values mean stricter attitude towards what acts are plagiarism, high performance oriented students (solid lines) are generally more strict across all Dimensions of Plagiarism than mastery oriented students (dashed lines), although loM/hiP

**Table 3**
Means and standard deviations for each item in the Dimension of Plagiarism survey arranged according to the order determined by factor analysis.

| Factors, item survey order, and item synopsis | Mean | | | | Standard deviation | | | |
|---|---|---|---|---|---|---|---|---|
| | hiM/hiP $n=240$ | hiM/loP $n=186$ | loM/hiP $n=201$ | loM/loP $n=240$ | hiM/hiP $n=240$ | hiM/loP $n=186$ | loM/hiP $n=201$ | loM/loP $n=240$ |
| *Factor 1: Excuses motive ($\alpha=.85$)* | | | | | | | | |
| 12. … under stress | 2.93 | 2.74 | 3.06 | 2.77 | 1.14 | 1.14 | 0.98 | 0.94 |
| 11. … heavy workload | 3.11 | 2.88 | 3.24 | 2.94 | 1.17 | 1.08 | 0.92 | 0.88 |
| 13. … little time | 3.15 | 2.94 | 3.30 | 3.00 | 1.18 | 1.19 | 1.01 | 1.05 |
| 10. … sick | 2.91 | 2.67 | 2.99 | 2.80 | 1.14 | 1.09 | 0.99 | 0.94 |
| 14. … nothing to add | 3.03 | 2.92 | 3.15 | 2.90 | 1.11 | 1.12 | 0.90 | 0.94 |
| 9. … caring for his family | 2.92 | 2.78 | 2.81 | 2.76 | 1.13 | 1.12 | 0.95 | 0.96 |
| *Factor 2: Embarrassment motive ($\alpha=.88$)* | | | | | | | | |
| 22. … won't look stupid | 2.98 | 2.67 | 3.06 | 2.75 | 1.12 | 1.24 | 1.09 | 0.99 |
| 21. … won't embarrass self | 3.05 | 2.70 | 3.04 | 2.81 | 1.09 | 1.17 | 1.04 | 1.01 |
| 23. … won't embarrass family | 2.96 | 2.62 | 2.94 | 2.68 | 1.23 | 1.30 | 1.21 | 1.08 |
| *Factor 3: Known personal source ($\alpha=.79$)* | | | | | | | | |
| 17. … from a friend | 3.09 | 2.92 | 3.16 | 3.00 | 1.12 | 1.07 | 0.95 | 0.91 |
| 16. … from senior student | 2.90 | 2.72 | 2.85 | 2.82 | 1.06 | 1.08 | 0.96 | 0.95 |
| 18. … from intelligent student | 3.33 | 3.05 | 3.38 | 3.07 | 1.12 | 1.10 | 0.96 | 0.96 |
| 8. … from group member | 3.19 | 3.01 | 3.05 | 2.99 | 1.06 | 1.07 | 0.89 | 0.91 |
| 15. … from someone paid | 2.47 | 2.34 | 2.58 | 2.40 | 1.21 | 1.25 | 1.17 | 1.04 |
| 4. … from another student | 2.95 | 2.77 | 2.95 | 2.90 | 1.06 | 1.07 | 0.97 | 0.90 |
| *Factor 4: Near impersonal source ($\alpha=.79$)* | | | | | | | | |
| 1. … from a textbook | 3.16 | 2.88 | 3.06 | 2.93 | 1.05 | 1.06 | 0.90 | 0.92 |
| 2. … from teacher handout | 3.30 | 3.09 | 3.12 | 3.04 | 1.08 | 1.03 | 0.93 | 0.90 |
| 3. … from a web-site | 3.37 | 3.11 | 3.29 | 3.23 | 1.08 | 1.05 | 0.94 | 0.85 |
| *Factor 5: Distant impersonal source ($\alpha=.66$)* | | | | | | | | |
| 7. … from unknown source | 2.92 | 2.84 | 2.83 | 2.76 | 1.04 | 1.11 | 1.01 | 0.96 |
| 5. … from local expert | 3.28 | 2.99 | 2.98 | 2.95 | 1.07 | 1.02 | 0.91 | 0.92 |
| 6. … from a library resource | 3.60 | 3.48 | 3.38 | 3.37 | 1.09 | 1.06 | 1.00 | 0.94 |
| *Factor 6: Need to be correct motive ($\alpha=.57$)* | | | | | | | | |
| 20. … to get the right answer | 3.72 | 3.38 | 3.58 | 3.43 | 1.07 | 1.19 | 0.98 | 0.97 |
| 19. … from an international expert | 3.31 | 3.04 | 3.17 | 3.00 | 1.05 | 1.09 | 1.02 | 0.94 |

Cronbach's coefficient $\alpha$ shown in parentheses.

students are stricter regarding excuses while hiM/hiP students are stricter regarding the 'source' for plagiarism.

During factor analysis, SPSS was used to collapse the plagiarism items into their separate factor scores. These six factor score data were analyzed by mixed ANOVA with the between subject factors of gender (male or female), mastery orientation (low or high, median split), and performance orientation (low or high, median split) and the repeated measure plagiarism factor score (see Table 4).

Goal orientation was significant, $F(1, 850) = 25.780$, MSe = 0.972, $p < .001$, partial eta squared = 0.029. Students with a high performance

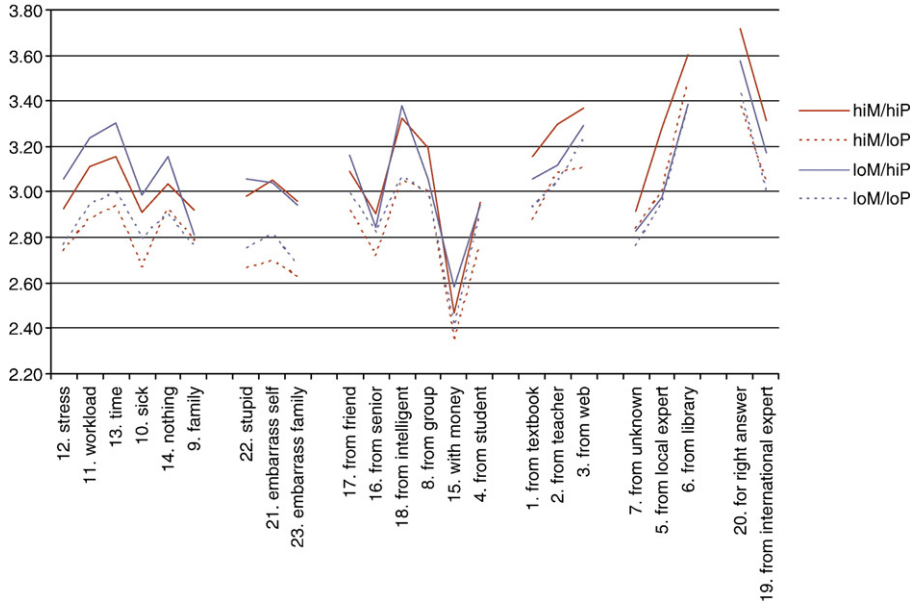


**Fig. 1.** A chart of the item means from Table 3 arranged according to the order determined by factor analysis.

**Table 4**
Mixed ANOVA of the Attitudes towards Plagiarism factor scores.

| | Type III SS | *df* | MS | *F* | Sig. | Partial eta squared |
|---|---|---|---|---|---|---|
| *Source* | | | | | | |
| Intercept | 0.208 | 1 | 0.208 | 0.214 | 0.644 | |
| Sex | 2.673 | 1 | 2.673 | 2.749 | 0.098 | |
| Mastery (M) | 0.380 | 1 | 0.380 | 0.391 | 0.532 | |
| Performance (P) | 25.060 | 1 | 25.060 | 25.780 | 0.000* | 0.029 |
| Sex*M | 0.119 | 1 | 0.119 | 0.122 | 0.727 | |
| Sex*P | 0.037 | 1 | 0.037 | 0.038 | 0.845 | |
| M*P | 1.358 | 1 | 1.358 | 1.397 | 0.238 | |
| Sex*M*P | 0.346 | 1 | 0.346 | 0.356 | 0.551 | |
| Error | 826.280 | 850 | 0.972 | | | |
| *Tests of within-subject effects (sphericity assumed)* | | | | | | |
| Plagiarism (6 levels) | 0.094 | 5 | 0.019 | 0.019 | 1.000 | |
| Plagiarism*sex | 12.299 | 5 | 2.460 | 2.472 | 0.030* | 0.003 |
| Plagiarism*M | 13.137 | 5 | 2.627 | 2.641 | 0.022* | 0.003 |
| Plagiarism*P | 9.357 | 5 | 1.871 | 1.881 | 0.094 | |
| Plagiarism*sex*M | 7.267 | 5 | 1.453 | 1.461 | 0.199 | |
| Plagiarism*sex*P | 7.486 | 5 | 1.497 | 1.505 | 0.185 | |
| Plagiarism*M*P | 3.398 | 5 | 0.680 | 0.683 | 0.636 | |
| Plagiarism*sex*M*P | 3.832 | 5 | 0.766 | 0.770 | 0.571 | |
| Error (plagiarism) | 4228.113 | 4250 | 0.995 | | | |

orientation had larger scores (were stricter towards plagiarism) across all six dimensions relative to students with a low performance orientation (see Fig. 2 and Table 5).

The interaction of Dimensions of Plagiarism and mastery orientation was also significant, $F(5, 4250) = 2.641$, MSe = 0.995, $p = .02$, partial eta squared = 0.003 (see Fig. 3). Generally, low mastery students were stricter than high mastery students regarding "excuses" and "embarrassment" Dimensions of Plagiarism but were less strict when it comes to "source" dimension of plagiarism.

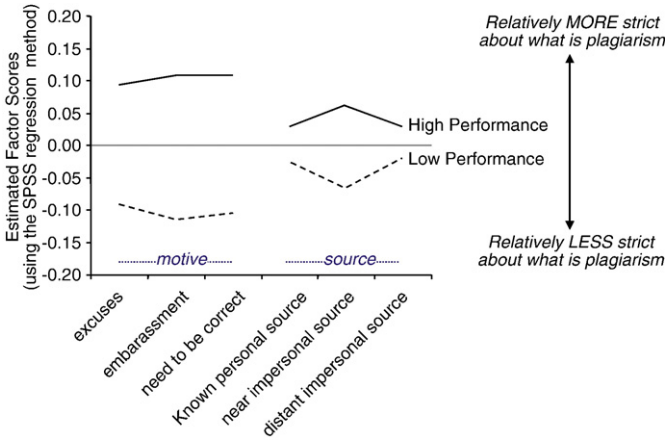


**Fig. 2.** Performance orientation and Dimensions of Plagiarism.

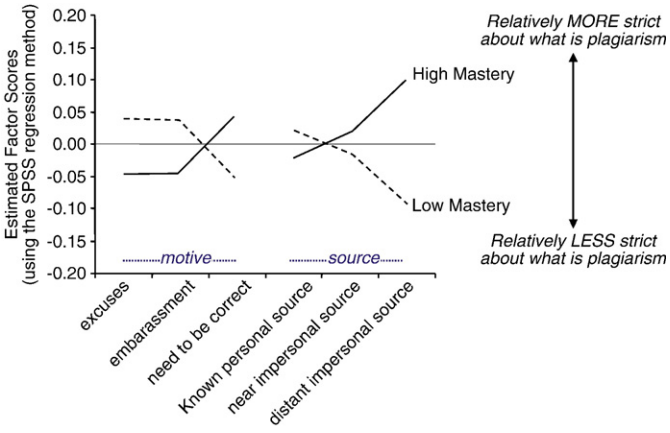


**Fig. 3.** Significant interaction of mastery orientation and Dimensions of Plagiarism.

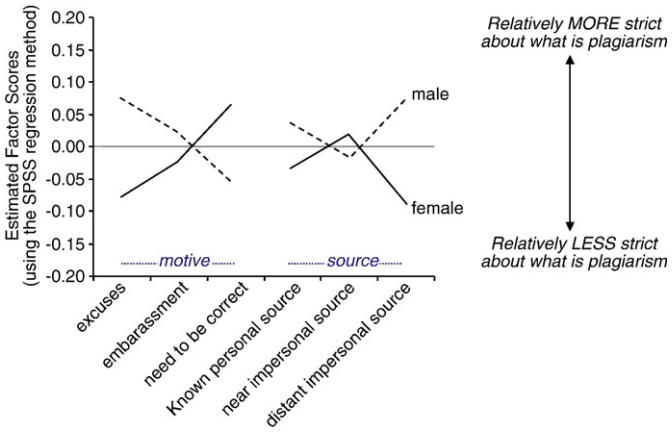


**Fig. 4.** Significant interaction of gender and Dimensions of Plagiarism.

Also, the interaction of Dimensions of Plagiarism and gender was significant, $F(5, 4250) = 2.472$, MSe = 0.995, $p = .03$, partial eta squared = 0.003 (see Fig. 4). Generally males were stricter than females regarding what is plagiarism (Fig. 4).

## 5. Discussion

Low context cultures emphasize a concern for whether something is rule-based, honest, correct, or accurate (Hall, 1976). High context cultures put more emphasis on whether something is fitting, suitable or proper, what Thais call *Maw* (Fieg, 1989). In our study, we found that Thai students' pay close attention to the contextual Dimensions of Plagiarism (source and motives) (here context means background and surrounding circumstances in which the event of copying by a student takes place). We found significant attitudinal differences between high mastery/high performance and low mastery/high performance students, suggesting that there are effects of multiple goals on attitudes towards acts of plagiarism. We also found that performance oriented students were more strict about what they consider to be plagiarism, and males were stricter than females. It should be noted, however, that students' affirmation of statements on a survey about attitudes may not reflect their own behavior.

Social comparison theory offers an additional way to interpret the results of our investigation (e.g., Taylor & Lobel, 1989; Wood, 1989). Social comparison theory postulates that humans have a drive to evaluate their opinions and abilities by comparing themselves with other people rather than to objective standards. Accordingly, "one's

**Table 5**
Spearman correlations of the achievement goal and plagiarism factors (factors derived by SPSS) Spearman's rho.

| | | Per. | Mast. | P1 | P2 | P3 | P4 | P5 | P6 |
|---|---|---|---|---|---|---|---|---|---|
| Ach goal | Performance | (.80) | | | | | | | |
| | Mastery | −0.04 | (.64) | | | | | | |
| Motive | P1 — excuses | 0.11 | −0.04 | (.85) | | | | | |
| | P2 — embarrassment | 0.15 | −0.05 | 0.10 | (.88) | | | | |
| | P3 — known personal source | 0.04 | 0.00 | 0.01 | 0.08 | (.79) | | | |
| Source | P4 — nearby impersonal source | 0.12 | 0.00 | 0.01 | 0.03 | 0.02 | (.79) | | |
| | P5 — distant impersonal source | 0.03 | 0.09 | 0.01 | 0.03 | 0.03 | −0.02 | (.66) | |
| | P6 — need to be correct | 0.13 | 0.07 | 0.02 | 0.00 | 0.02 | 0.01 | 0.00 | (.57) |

Cronbach alpha reliability in parenthesis rho > .10 is significant at the 0.01 level (2-tailed). rho from .07 to .10 is significant at the 0.05 level (2-tailed).

satisfaction with life appears to depend less on objective circumstances than on how one stands in relation to others; if one is better off, one is happy" (Wood, 1989, p.233).

We found that performance oriented students were stricter about plagiarism. The "relationship orientation" of Thai students puts a higher value on self and in-group interests over other considerations which means "principles, values, policies, and even agreements might not be upheld when weighed against personal relations, self and in-group interests" (Komin, 1991, p. 167). Since education is the primary way to move up the social ladder (to higher prestige, higher salary), students may wish they could 'level the playing field' by preventing other students from gaining the top positions fraudulently or through short cuts. A stricter attitude towards the engagement of others in acts of plagiarism may reflect a need to promote the sense of self-worth and self-interest (see Covington, 1992).

The results in our study support findings of previous research on the influence of learning environment on students' interpersonal evaluations (Ames, 1981). Ames (1981, p. 275) has concluded that a cooperative learning environment promotes *positivity* in the evaluation of others, in other words a convergence of evaluations of "self" and "others". A competitive learning environment, on the other hand, promotes *negativity* in evaluation of others, in other words a highly divergent evaluation of oneself in relation to others. This may explain why performance oriented students, who are worried about their competition with others and who are themselves more likely to engage in cheating, were stricter in their evaluation of others regarding plagiarism.

Prior studies have reported and interpreted gender differences in attitudes towards cheating in terms of sex-role socialization theory which posits that females have been socialized to obey rules that are deemed less binding for males (Akbulut, Uysal, Odabasi, & Kuzu, 2008; Ward & Beck, 1990). For example, Akbulut et al. (2008) found that males outperformed females in terms of making unethical judgments; Davis, Grover, Becker, and McGregor (1992) reported that males cheat more frequently than females. However, Underwood and Szabo (2003) caution that a "simple females-good and males-bad perception of academically dishonest behavior is too simplistic"; both sexes commit offences but the stimulus for such behavior may differ (p. 475). Results of statistical analysis in our study were consistent with previous research that has shown that gender itself does not determine students' achievement orientations but "gender effect" can shape how males and females interpret contexts in different ways (Ames, 1981; Dowson, McInerney, & Nelson, 2006). We found no statistically significant differences between males and females in terms of their overall achievement orientations (Mean score for males = 3.00, SD = 3.64; Mean score for females = 3.14, SD = 3.31, $p = .558$). There were, however, significant differences in how males and females interpreted what is plagiarism and what should count as plagiarism. Generally, males relative to females were not inclined to see "excuses" as acceptable reasons to copy. Also males relative to females viewed copying from a distant source as plagiarism, although males and females had similar views regarding copying from close associates. On the other hand, females relative to the males did not accept the need to be correct as a reason to copy. These results are consistent with previous research findings that males are generally self-serving and competitive in competitive achievement settings while females are self-effacing and generous to others (see Ames, 1981).

Considering "motive" and "source" as two contextual and culturally dependent Dimensions of Plagiarism, our findings suggest that both "goal effect" and "gender effect" influence students' interpretations of whether plagiarism has occurred or how severe the plagiarism is. It should be noted that most researchers have suggested that *approach* goals (focus on attaining success) and *avoidance* goals (focus on the avoidance of failure) should be treated differently in terms of the *valence* of the competence because, for example, *performance approach* goals orient an individual to look good in comparison with others while *performance avoidance* goals orient an individual to avoid looking bad or stupid (Elliot & McGregor, 2001). Our study did not separate the influence of *performance approach* goals from the influence of *performance avoidance* goals because we found during the pilot testing phase that both *performance approach* items and *performance avoidance* items were interpreted similarly in the Thai language, grouping under a single factor. The results of our study are limited by the fact that the Dimensions of Plagiarism (Koul, 2007) instrument is new and it was applied for the first time in this investigation. The factor analysis of the Dimensions of Plagiarism survey obtained six reasonable factors, but as researchers such as McCabe et al. (2001) have indicated, there are additional Dimensions of Plagiarism that should be considered. Future research should further conceptualize and validate this instrument.

## References


Akbulut, Y., Uysal, O., Odabasi, H. F., & Kuzu, A. (2008). Influence of gender, program of study and PC experience on unethical computer using behaviors of Turkish undergraduate student. *Computers & Education*, *51*, 485–492.

Ames, C. (1981). Competitive versus cooperative reward structures: The influence of individual and group performance factors on achievement attributions and affect. *American Educational Research Journal*, *18*, 273–287.

Anderman, E. M., & Midgley, C. (2004). Changes in self-reported academic cheating across the transition from middle school to high school. *Contemporary Educational Psychology*, *29*, 499–517.

Chang, S.F., (1999). *Learning motivation in a junior high school EFL context in Taiwan*. Unpublished doctoral dissertation, Indiana University, Bloomington.

Covington, M. V. (1992). *Making the grade: A self worth perspective on motivation and school reform*. Cambridge, England: Cambridge University Press.

Davis, S. F., Grover, C. A., Becker, A. H., & McGregor, L. N. (1992). Academic dishonesty: Prevalence, determinants, techniques, and punishments. *Teaching of Psychology*, *19*, 16–20.

DeVoss, D., & Rosati, A. C. (2002). "It wasn't me, was it?" Plagiarism and the web. *Computers and Composition*, *19*, 191–203.

Dowson, M., McInerney, M. M., & Nelson, F. G. (2006). An investigation of the effects of school context and sex differences on students' motivational goal orientations. *Educational Psychology*, *26*, 781–811.

Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review*, *95*, 256–273.

Elliot, A. J., & McGregor, H. (2001). A 2×2 achievement goal framework. *Journal of Personality and Social psychology*, *80*, 501–519.

Fieg, J. P. (1989). *Thais and Americans: A common core*. US: Intercultural Press Inc.

Hall, T. E. (1976). *Beyond culture*. New York: Anchor Books.

Harackiewicz, J. M., Barron, K. E., & Elliot, A. J. (1998). Rethinking achievement goals: When are they adaptive for college students and why? *Educational Psychologist*, *33*, 1–21.

Henson, R. K., & Roberts, J. K. (2006). Use of exploratory factor analysis in published research: Common errors and some comment on improved practice. *Educational and Psychological Measurement*, *66*, 393–416.

Komin, S. (1991). *Psychology of the Thai people: Values and behavioral patterns*. Bangkok, Thailand: National Institute of Development Administration.

Koul, R. (2007). *Dimensions of Plagiarism*. Downloaded April 8, 2008 from http://dimensions-of-plagiarism.wikispaces.com/

McCabe, D. L., Trevino, L. K., & Butterfield, K. D. (2001). Cheating in academic institutions: A decade of research. *Ethics & Behavior*, *1*(3), 219–232.

Midgley, C., Kaplan, A., & Middleton, M. (2001). Performance-approach goals: Good for what, for whom, under what circumstances, and at what cost? *Journal of Educational Psychology*, *93*, 77–86.

Midgley, C., & Urdan, T. (2001). Academic self-handicapping and achievement goals: A further examination. *Contemporary Educational Psychology*, *26*, 61–75.

Niemivirta, M. (1998). Individual differences in motivational and cognitive factors affecting self-regulated learning — A pattern-oriented approach. In P. Nenninger, R. S. Jäger, A. Frey, & M. Woznitza (Eds.), *Advances in motivation* (pp. 23–42). Landau, DE: Verlad Empirische Pädagogik.

Nisbett, R. E., Peng, K., Choi, I., & Norenzayan, A. (2001). Culture and systems of thought: Holistic versus analytic cognition. *Psychological Review*, *108*, 291–310.

Ong, W. J. (1982). *Orality and literacy: The technologizing of the word*. London, UK: Methuen Publishing.

Pintrich, P. R. (2000). Multiple goals, multiple pathways: The role of goal orientation in learning and achievement. *Journal of Educational Psychology*, *92*, 544–555.

Schunk, D. H., Pintrich, P. R., & Meece, J. (2008). *Motivation in education: Theory, research, and applications* (3rd Edition). New Jersey: Pearson Education Inc.

Shih, S., & Alexander, J. M. (2000). Interacting effects of goal setting and self- or other-referenced feedback on children's development of self-efficacy and cognitive skills within the Taiwanese classroom. *Journal of Educational Psychology*, *92*, 536–543.

Starr, K. (2002). *Plagiarism 101: How to write term papers without being sucked into the black hole. A tutorial of the University Library at the State University of New York*. Downloaded February 23, 2008 from http://library.albany.edu/usered/plagiarism/

Sukrung, K. (2003, May 27). *Making the grade*. *Bangkok Post*. Retrieved January 18, 2009, from http://www.bangkokpost.com/education/site2003/ftmy2703.htm

Taylor, S. E., & Lobel, M. (1989). Social comparison activity under threat: Downward evaluation and upward contacts. *Psychological Review*, *96*, 569–575.
Underwood, J., & Szabo, A. (2003). Academic offences and e-learning: Individual propensities in cheating. *British Journal of Educational Technology*, *34*(4), 467–477.
Visalo, P. P. (2008, April 23). *When Buddhist monks cheat in exams. Bangkok Post*. Retrieved January 18, 2009, from http://www.buddhistchannel.tv/index.php?id=70,6289,0,0,1,0
Ward, D. A., & Beck, W. L. (1990). Gender and dishonesty. *Journal of Social Psychology*, *130*(3), 33–339.
Whitley Jr., B. E., Nelson, A. B., & Jones, C. J. (1999). Gender differences in cheating attitudes and classroom cheating behavior: A meta-analysis. *Sex Roles*, *41*, 657–677.
Wood, J. V. (1989). Theory and research concerning social comparisons of personal attributes. *Psychological Bulletin*, *106*, 231–248.