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Author(s)	Guangwei Hu and Jun Lei
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## **Chinese University Students' Perceptions of Plagiarism**

Guangwei Hu & Jun Lei

Nanyang Technological University, Singapore

### **Contact Information**

Guangwei Hu (corresponding author)  
English Language and Literature  
National Institute of Education  
Nanyang Technological University  
1 Nanyang Walk, Singapore 637616  
E-mail: [guangwei.hu@nie.edu.sg](mailto:guangwei.hu@nie.edu.sg)

Jun Lei  
English Language and Literature  
National Institute of Education  
Nanyang Technological University  
1 Nanyang Walk, Singapore 637616  
E-mail: [rayjun.lei@gmail.com](mailto:rayjun.lei@gmail.com)

## **Chinese University Students' Perceptions of Plagiarism**

### **Abstract**

This study examines Chinese undergraduates' perceptions of plagiarism in English academic writing in relation to their disciplinary background (i.e., hard vs. soft disciplines), academic enculturation (i.e., length of study in university), and gender. Drawing on data collected from 270 students at two universities in China, it finds clear discipline-based differences in participants' knowledge of plagiarism and perceptions about its causes; an enculturational effect on perceived acceptability of and condemnatory attitudes toward plagiarism, with senior students being less harsh than their junior counterparts; and complex interactions among disciplinary background, length of study, and gender. Furthermore, it reveals conceptions of (il)legitimate intertextuality (i.e., textual borrowing) differing from those prevalent in Anglo-American academia and clearly punitive stances on perceived plagiarism. These results suggest the need to take an educative rather than punitive approach to source use in English academic writing.

**Keywords:** Chinese university students; disciplinarity; enculturation; gender; plagiarism

An article (“Campus collaboration,” 2013) in *The Economist* discusses the challenges that Western universities face in running cooperative and exchange higher education programs in China. Reacting to the closure of a high-profile undergraduate program in Beijing jointly set up by Yale University and Peking University, a Yale professor is quoted as complaining that “when a student I am teaching steals words and ideas from an author without acknowledgement I feel cheated.” “I ask myself,” he continued, “why should I teach people who knowingly deceive me?” This American professor’s stance toward plagiarism and Chinese students is not uncommon. However, as two Chinese academics with extended experience of studying and teaching at universities both in China and overseas, we believe that there is more to Chinese students’ intertextual practices than meets the eye. From our standpoint, rather than assuming deficiencies in moral frames of reference, it is imperative and instructive to conduct empirical investigations into what conceptions Chinese students have of plagiarism, which individual difference and contextual factors underlie their perceptions of and attitude toward illegitimate intertextuality, and how these factors may shape their own textual borrowing practices.

Plagiarism is generally regarded as grave academic misconduct and is often associated with such condemnatory labels as deception, cheating, academic crime, intellectual dishonesty, moral failing, to name just a few. These terms share unmistakable overtones of a moral binary (i.e., moral vs. immoral), suggesting that plagiarism has a clear-cut boundary (Ouellette, 2008; Valentine, 2006). However, recent scholarship reveals that plagiarism is a complex, multidimensional phenomenon mediated by a variety of factors and embedded deeply in cultural, social, historical, ideological, and epistemological conditions (Currie, 1998; Pennycook, 1996; Sapp, 2002; Zwagerman, 2008). Scollon (1995), for example, has argued that “the concept of plagiarism is fully embedded within a social, political, and cultural matrix that cannot be meaningfully separated from its interpretation” (p.23). Similarly, Chandrasoma, Thompson, and Pennycook (2004) have noted that plagiarism “is centrally concerned with questions of language, identity, education, and knowledge” (p.172). Notably, considerable attention has been given to the influences of disciplinarity, enculturation, and gender on perceptions of plagiarism (Abasi, Akbari, & Graves, 2006; Angéllil-Carter, 2000; Chandrasegaran, 2000; Flowerdew & Li, 2007a, 2007b; Pennycook, 1996; Underwood & Szabo, 2003). Drawing upon these strands of research, this survey study investigates the perceptions (i.e., knowledge, beliefs, and attitudes) of plagiarism in English academic writing held by undergraduate students in China.

### **Disciplinary Norms and Plagiarism**

The literature suggests that different disciplines may have different norms for what constitutes plagiarism (Borg, 2009; Flowerdew & Li, 2007b; Jameson, 1993; Pecorari, 2006; Shi, 2010). In this regard, Borg (2009) observed that “disciplinary differences divide us profoundly” (p.423) as a result of deeply embedded disciplinary epistemologies. This observation is supported by research (e.g., Bouville, 2008; Flowerdew & Li, 2007a) that has suggested a greater separation of content and language in hard disciplines (e.g., the natural sciences, engineering) than in soft disciplines (i.e., the humanities and the social sciences). Such difference is likely to shape disciplinary norms for what is considered acceptable appropriation of others’ ideas and language and what intertextual practices constitute plagiarism (Jameson, 1993). Thus, as Price (2002) noted, “plagiarism is a dynamic and locally mediated idea, not an unmoving, absolutely knowable rule” (p.101).

Several studies have investigated disciplinary influences on perceptions of plagiarism and produced mixed results. Specifically, those studies that drew on questionnaire and interview data (e.g., Borg, 2009; Rinnert & Kobayashi, 2005; Selwyn, 2008) identified clear disciplinary differences in understandings of and attitudes toward plagiarism. In particular, there appear to be important differences in disciplinary norms along the line of hard and soft sciences. Thus, Borg (2009) concluded “that transgressive intertextuality needs to be defined according to the disciplinary expectations and that a single institutional definition may be inadequate to defining varying disciplinary perspectives” (p. 415). In contrast, studies that mainly relied on textual judgment as data (e.g., Chandrasegaran, 2000; Roig, 2001; Wheeler, 2009) failed to find appreciable disciplinary differences in perceptions and practices of plagiarism. Interestingly, a study by Shi (2012) that used text-based interviews, which combined textual judgment data with interviews, found clear differences in disciplinary norms for what constitute legitimate and transgressive textual borrowing practices: while participants in arts and social sciences stressed the need to acknowledge others’ words, their counterparts in sciences emphasized the importance of acknowledging others' ideas rather than words. These inconsistent findings point to the potential influences of specific research designs and foci in studies of plagiarism and call for further research that involve learners in diverse settings and make use of multiple measures of knowledge, beliefs, and attitudes.

### **Enculturation and Plagiarism**

It has been widely discussed that student writers’ beliefs, knowledge, and attitudes regarding

plagiarism are subject to enculturational influences (see Abasi et al., 2006; Angélic-Carter, 2000; Pecorari, 2003, 2008). Thus, plagiarism may be only a transitional stage in writer development and will be outgrown as a result of increasing socialization into the target academic culture (Howard, 1995; Ouellette, 2008; Price, 2002; Sherman, 1992). Representative of such an enculturational perspective is Abasi et al.'s (2006) contention that “students acquire the implicit attitudes, values, ways of using language, and the social roles associated with their disciplines over time through increasing participation in the activities of their prospective communities” (p.113) and that there is a clear need “to view student textual plagiarism as an issue of learning and development rather than one of moral transgression” (p.114).

Several empirical studies took an enculturational perspective to understand changes in students' beliefs about, knowledge of, attitudes toward, and/or practice of plagiarism (e.g., Chandrasegaran, 2000; Deckert, 1993; Gilmore, Strickland, Timmerman, Maher, & Feldon, 2010; Lei, 2010; Martin, Rao, & Sloan, 2011; Song-Turner, 2008; Wheeler, 2009). These studies produced a number of noteworthy but unsurprising findings. One finding is that with increasing enculturation into a Western(ized) academic community, students from non-Western cultural backgrounds may develop perceptions and practices that increasingly approximate to Anglo-American conceptions of plagiarism and intertextual practices (Lei, 2010; Martin et al., 2011; Song-Turner, 2008). Another finding is that advancement in higher education is associated with more knowledge about inappropriate intertextuality and greater ability to recognize or avoid various forms of plagiarism (Chandrasegaran, 2000; Deckert, 1993; Gilmore et al., 2010). A related finding is that attitudes toward plagiarism tend to become stricter with growing socialization into academia as measured by years of higher education received (Chandrasegaran, 2000; Deckert, 1993; Szabo & Underwood, 2004). It is important to note that the studies reviewed here involved only English-as-a-second-language (ESL) students and were conducted in contexts (e.g., Australia, Hong Kong, Singapore, UK, and USA) heavily influenced by Anglo-American academic culture. Thus, it still remains unknown whether similar enculturational effects on plagiarism would occur in English-as-a-foreign-language (EFL) contexts.

Research into enculturational effects on intertextuality in EFL contexts can contribute to the current debate on whether plagiarism is culturally conditioned (Hu & Lei, 2012). Much of extant research involving international students in Anglo-American educational settings suggests that non-Western students in general and Asian students in particular hold more lax attitudes toward

plagiarism/academic dishonesty and are more prone to engage in illegitimate intertextual practices than their Anglo-American peers (Gilmore et al., 2010; Thompson & Williams, 1995). One explanation for such findings is that these students' attitudes and propensities are culturally conditioned and that their native cultures condone or even encourage plagiarism (Sapp, 2002; Sowden, 2005). This culturally essentialist explanation, however, has been roundly rejected by other academics (e.g., Evans & Youmans, 2000; Flowerdew & Li, 2007b; Lei & Hu, 2014; Liu, 2005; Phan, 2006) who view plagiarism as consequential on a complex of factors such as different conceptions of plagiarism, limited knowledge of illegitimate intertextuality, insufficient command of the target language, pedagogical practices, and various other situational variables. This non-essentialist perspective is supported by a growing stream of findings from recent studies (e.g., Hyland, 2009; Martin, 2012; Martin et al., 2011) that Asian and other ESL students do not plagiarize more than their Anglo-American counterparts.

The overall picture emerging out of research on plagiarism in Chinese educational contexts also counters the cultural conditioning explanation. Collectively, this research indicates that although plagiarism is widespread and may stem from a multiplicity of factors (Li, 2007; Mu & Xu, 2009; Qin, 2013; X. Zhang, 2012), it is institutionally defined as a condemnatory intertextual practice (G. Zhang, 2007; Zhao & Guo, 2012). For example, China's *Copyright Law* (The National People's Congress, 1990) and regulations on academic conduct promulgated by the Ministry of Education (2004, 2012) explicitly characterize plagiarism as an act of infringement/academic dishonesty that is punishable. Many Chinese universities have issued their own punitive policies on plagiarism and adopted text-matching programs to deter and detect plagiarism in students' dissertations (X. Zhang, 2012). This condemnatory attitude notwithstanding, plagiarism is typically defined in rather general terms, for example, as copying others' work or research (e.g., Ministry of Education, 2012), and institutional policies, student handbooks, and other vital sources of information do not codify instances of appropriate and inappropriate source use (Qiao, 2003). Consequently, Chinese students often struggle with applying the general notion of plagiarism to specific textual borrowing practices. Although they may have some understanding of plagiarism as a general concept, many students have rather limited knowledge of specific acts of textual misuse (Qin, 2013; Zhang, Li, & Duan, 2008; X. Zhang, 2012). To compound the problem, with a few exceptions, there is hardly any training in Chinese academic writing at the undergraduate level, not to mention instruction in source attribution (Li, 2007; Mu & Xu,

2009; Zhang et al., 2008). Where English writing instruction is available, a product-based approach is usually taken to focus pedagogical attention on language use (Qin, 2013; Wu & Zhang, 2000). The general lack of Chinese academic writing instruction and the predominant focus of English writing pedagogy on linguistic issues at Chinese universities raise the question of whether enculturation effects observed in ESL contexts can also occur to Chinese EFL students who may not have as much exposure to Anglo-American conceptions of plagiarism as their counterparts in ESL contexts.

### **Gender and Plagiarism**

In his comprehensive review of 107 studies on factors associated with academic dishonesty among college students, Whitley (1998) noted that male students were more likely to cheat than their female counterparts. This gender-related tendency was also observed in two recent studies of plagiarism (Selwyn, 2008; Smith, Ghzali, & Minhad, 2007) which found that male students were more likely to self-report plagiarizing than female students. Likewise, in a meta-analysis of 44 studies of gender differences in cheating attitudes and classroom cheating behaviors that were conducted in the UK, the USA, and several other countries, Whitley, Nelson, and Jones (1999) found a medium-sized effect of gender on attitudes toward cheating, with men being more positive about cheating. This finding was echoed by several studies of plagiarism (Kroll, 1988; Szabo & Underwood, 2004; Underwood & Szabo, 2003) which found that males had greater acceptance of plagiarism, lower willingness to take actions against plagiarism, and less concern about risks of plagiarism than females did. In addition, gender has been found to interact with discipline in attitudes toward academic dishonesty (Lin & Wen, 2007; McCabe & Trevino, 1995; Newstead, Franklyn-Stokes, & Armstead, 1996; Whitley et al., 1999). Whitley et al. (1999) found that “gender differences in cheating were smaller in courses in traditionally male-dominated fields than in other courses” (p. 667). They suggested that male role norms characterized by greater tolerance of minor transgressions may prevail in male-dominated disciplines and influence both male and female students, thereby resulting in smaller gender differences in male-dominated disciplines.

The studies reviewed above produced some interesting evidence that gender is related to practices of academic dishonesty and attitudes toward it and may interact with disciplinary background in its impact. It should be noted, however, that an overwhelming majority of previous studies on gender effects and the interaction between gender and disciplinarity focused on cheating. This raises a question about the extent to which findings about cheating in general can be extrapolated to

perceptions and practices of plagiarism. It has been increasingly recognized that plagiarism and cheating are two different notions because the various practices traditionally labeled as plagiarism may not necessarily involve the intent to deceive, whereas cheating is intentional (Howard, 1999; Li & Casanave, 2012; Pecorari, 2003). Thus, there is a need to examine whether gender alone and together with disciplinaryity have an impact on understandings of and stances toward plagiarism, too.

To summarize, the above review of previous research on plagiarism has identified three issues that call for further research. First, empirical inconsistency exists with regard to whether there are disciplinary influences on students' perceptions of plagiarism. Second, while many studies have been conducted in ESL contexts to examine enculturational effects on student writers' perceptions and practices of plagiarism, such research in EFL contexts is still rather limited. Third, although there has been a substantial body of research on gender differences in cheating, similar research on plagiarism is still in the nascence. In addition to these issues, existing research on plagiarism has not explicitly explored the potentially complex interactions between important variables (i.e., disciplinaryity, enculturation, and gender) that may qualify general conclusions and lead to more nuanced understanding of plagiarism (Whitley et al., 1999). This study seeks to address these issues by answering the following questions about plagiarism in English academic writing:

1. Do Chinese undergraduate students of soft disciplines differ from their counterparts from hard disciplines in their perceptions of plagiarism?
2. Do senior Chinese undergraduate students differ from their junior counterparts in their perceptions of plagiarism?
3. Do male and female Chinese undergraduate students differ in their perceptions of plagiarism?
4. Do disciplinaryity, enculturation, and gender interact in their relationship to Chinese undergraduate students' perceptions of plagiarism?

## **Method**

### ***Participants***

Participants were 270 Chinese undergraduates sampled according to several considerations. First, participants were drawn from two universities located respectively in Sichuan and Shanghai, two regions of China that differ greatly in socioeconomic development. This sampling strategy was meant to reflect China's regional differences in educational development in general and English language provision in particular to enhance the representativeness of the sample. Second, two different types of

institution – an average teacher-education university and a major comprehensive university – were purposively sampled to better represent the larger student population of higher education in China than sampling from a single type of university would do. Third, participants were selected from two soft disciplines (i.e., English Language and Business Studies) and two hard ones (i.e., Mechanical Engineering and Computer Engineering) to investigate the relationship of disciplinary background to perceptions of plagiarism. To avoid a confounding of discipline and location of institution, a hard and a soft discipline were selected from each university. The Computer Engineering and English Language students were drawn from the teacher-education university, and the Mechanical Engineering and Business Studies students from the comprehensive university. The two selected majors in each university were representative of its hard and soft disciplines in terms of major entry requirements and gender distribution. Fourth, the male-dominated discipline of Mechanical Engineering was chosen to counterbalance the female-dominated discipline of English Language Studies. Male ( $n = 107$ ) and female ( $n = 163$ ) students accounted for 39.63% and 60.37% of the total sample, respectively. Fifth, to examine possible enculturational effects on perceptions of plagiarism, roughly equal numbers of first-year and third-year students were sampled from each discipline. Finally, captive intact classes of students were invited to complete the survey to enhance the return rate. Few students from these classes declined to participate, though they were briefed about their right not to participate or to withdraw at any time during the study. Table 1 presents demographic information about the participants.

### ***Instrumentation***

A Perceptions of Plagiarism (PoP) instrument written in Chinese was used to collect the data needed to address the research questions.<sup>1</sup> Initial items for the instrument were generated through focused groups and written responses elicited from 16 Chinese undergraduate students. Additional items were culled from the literature. This process resulted in a 116-item instrument covering three major categories of issues concerning plagiarism, namely types of improper source use, potential causes of plagiarism, and attitudes toward plagiarism. The instrument was trialed on the aforementioned 16 students to identify problems and was revised accordingly. It was then piloted, respectively, on 77 third-year undergraduates from a university in Shaanxi and 178 first-year undergraduates from a university in Hunan. Two principal component analyses (PCA) with direct oblimin rotation were run on the pilot data to establish the construct validity of the multiscale

instrument. The two pilot tests were used to cross-validate the internal structure of the PoP (Hopwood & Donnellan, 2010). The component solutions of the two PCAs were later compared with those obtained from the data collected for the main study. In all three PCAs, the same component solutions were obtained, yielding good evidence of the construct validity of the instrument. Table 2 summarizes the components of the finalized 52-item PoP and reliability estimates based on the data collected for the main study.

Section 1 of the instrument consisted of 10 statements describing various forms of source use typically regarded as improper in Anglo-American academia and asked the participants to indicate on a 5-point likert scale to what extent they felt each case was an instance of plagiarism in English academic writing, with a higher score indicating greater knowledge about Anglo-American notions of plagiarism. The 10 items ranged from “copying a paragraph verbatim from someone’s writing without acknowledgement” (knowledge of blatant plagiarism) to “mixing someone’s ideas with one’s own without acknowledgement” (knowledge of subtle plagiarism) and “including sources in the reference list that are not referred to in text” (knowledge of improper referencing). Section 2 comprised 15 statements about causes of plagiarism and asked the participants to indicate on a 5-point likert scale to what extent they thought each statement described a likely cause of plagiarism in English academic writing among Chinese university students, with a higher score indicating greater perceived likelihood. Example items were “poor language ability” (inadequate academic ability), “laziness” (slack attitudes), “fierce competition among peers” (pressure), and “light penalties” (perceived low risk of plagiarizing). Section 3 contained the same 15 statements of Section 2 but asked the participants to indicate on a 5-point likert scale to what extent they thought plagiarism induced by each cause was acceptable, with a higher score indicating greater acceptability. Finally, Section 4 included 12 characterizations of plagiarism in general and asked the participants to indicate on a 5-point likert scale to what extent they agreed with each statement, with a higher score indicating greater agreement. Examples included “Plagiarism is a form of stealing” (condemnatory attitudes), “How to view plagiarism depends on the perpetrator’s motive” (differential treatment), and “Plagiarism is a learning process” (non-condemnatory attitudes).

As Table 2 shows, the internal consistency estimates for all the PCA-based scales but the one on knowledge of inappropriate referencing met the conventional standard for acceptability. Given the exploratory nature of this study and the small number of items on the scale, the Cronbach alpha value

of .58 was regarded as acceptable.

### ***Data Collection and Analysis***

As made clear in our earlier explanation of the sampling strategies, data for the main study were collected from captive intact groups of students. Access to prospective participants was granted by the university authorities concerned, and invitations for participation in the study were extended to students through their professors. The PoP instrument was administered to captive groups of students after they were briefed on the survey and agreed to participate. It took the participants an average of 20 minutes to complete it.

To analyze the data quantitatively, a scale score was computed for each participant by averaging his/her likert-scale responses over the items on the scale in question. These scale scores were examined to obtain an overview of the participants' knowledge about plagiarism, perceived likelihood of different causes of plagiarism, perceived acceptability of plagiarism arising from different causes, and attitudes toward plagiarism in general. Additionally, in order to obtain a more nuanced picture of the participants' knowledge, beliefs and attitudes, percentages of responses corresponding to the 5 likert points on a scale were obtained by rounding each participant's scale score to the nearest integer. Finally, to assess the relationship of discipline, enculturation, and gender to knowledge, beliefs, and attitudes regarding plagiarism, three-way between-subjects ANOVAs were run on the participants' scores for the 14 PoP scales separately, with discipline, year of study, and gender being the independent variables in each case.

## **Results**

### ***Knowledge about Improper Source Use***

Table 3 presents descriptive statistics for the three scales assessing knowledge of improper source use. The mean scores for the scales were rather low, indicating that a majority of the participants either were uncertain about or did not see anything wrong with the various forms of intertextual practices that are generally recognized as plagiarism in the Anglo-American academic world. As can be seen from the table, nearly three-fifths of the participants thought the different forms of intertextuality (e.g., unacknowledged verbatim copying of a paragraph; unattributed borrowing from an Internet source) described by the items on the blatant plagiarism scale were probably or definitely acts of plagiarism. However, only a quarter of the participants thought so about the various forms of intertextuality (e.g., unattributed paraphrasing of someone's ideas; unacknowledged synthesizing of

information from several published sources) targeted by the subtle plagiarism scale, and well over half of the participants considered them probably or definitely not instances of plagiarism. Even a smaller proportion (16%) of the participants identified the forms of source use (e.g., including in the reference list sources one has not read; citing a source in text but not listing it as a reference) making up the improper referencing scale as probably or definitely guilty of plagiarism, with the largest proportion (45%) regarding them as probably or definitely not cases of plagiarism and another sizeable proportion indicating their uncertainty.

The three-way ANOVAs run on the data revealed a significant main effect of discipline on knowledge about blatant plagiarism,  $F(1, 266) = 18.929, p < .001, \eta_p^2 = .068$ , and subtle plagiarism,  $F(1, 264) = 6.902, p = .009, \eta_p^2 = .026$ . Students from the soft disciplines ( $M = 3.70, SD = 0.10$  for blatant plagiarism;  $M = 2.70, SD = 0.12$  for subtle plagiarism) consistently knew more about both types of plagiarism than students from the hard disciplines ( $M = 3.12, SD = 0.09$  for blatant plagiarism;  $M = 2.26, SD = 0.11$  for subtle plagiarism). Neither year of study nor gender had any significant main effect on knowledge about any kind of improper source use. However, there was a significant gender/discipline interaction on knowledge about blatant plagiarism,  $F(1, 266) = 10.728, p = .001, \eta_p^2 = .040$ . Male students from the soft ( $M = 3.57, SD = 0.18$ ) and hard ( $M = 3.42, SD = 0.12$ ) disciplines did not differ much in their knowledge of blatant plagiarism, whereas female students from the soft disciplines ( $M = 3.84, SD = 0.09$ ) knew markedly more about blatant plagiarism than female students from the hard disciplines ( $M = 2.82, SD = 0.14$ ).

### ***Perceived Likelihood of Different Causes of Plagiarism***

Table 4 presents descriptive statistics for the four scales on perceived likelihood of different causes of plagiarism. Slack attitudes (e.g., reluctance to think; low investment in assignments) were perceived to be the most likely causes, with a mean score of 4.35 falling between “possibly a cause” and “probably a cause.” Specifically, nearly 90% of the participants regarded slack attitudes as a possible or probable cause of plagiarism among Chinese university students. In addition, well over half of the participants identified both inadequate academic ability (e.g., poor writing competence and lack of source use skills) and pressure (e.g., fear of failing a course and pressure to get a high grade) as possible or probable causes of plagiarism. However, less than 30% of the participants gave similar ratings to perceived low risk of plagiarizing (e.g., lecturers’ indifference to plagiarism; institutional acquiescence); more than one-third of the participants considered them possibly or probably not

causes of plagiarism; and another one-third were unsure.

The ANOVAs run on the data collected with the four scales found a significant main effect of discipline only on perceived likelihood of slack attitudes as a cause of plagiarism,  $F(1, 269) = 8.768$ ,  $p = .003$ ,  $\eta_p^2 = .032$ . Students from the soft disciplines ( $M = 4.50$ ,  $SD = 0.57$ ) were significantly more likely to see slack attitudes as a cause of plagiarism than students from the hard disciplines ( $M = 4.18$ ,  $SD = 0.95$ ). Neither year of study nor gender had any significant main effect on perceived likelihood of any causes of plagiarism. Notably, a significant interaction was found between gender and discipline for perceived likelihood of pressure as a cause of plagiarism,  $F(1, 268) = 6.500$ ,  $p = .011$ ,  $\eta_p^2 = .024$ . Male students from the hard disciplines ( $M = 3.66$ ,  $SD = 0.11$ ) were considerably more likely to think of pressure as a cause of plagiarism than male students from the soft disciplines ( $M = 3.14$ ,  $SD = 0.17$ ), whereas the difference was much smaller between female students from the soft ( $M = 3.51$ ,  $SD = 0.09$ ) and hard ( $M = 3.36$ ,  $SD = 0.14$ ) disciplines. A significant interaction between gender and year of study was also found for perceived likelihood of pressure as a cause of plagiarism,  $F(1, 268) = 4.645$ ,  $p = .032$ ,  $\eta_p^2 = .017$ . Male first-year students ( $M = 3.63$ ,  $SD = 0.13$ ) were markedly more likely to think of pressure as a cause of plagiarism than male third-year students ( $M = 3.18$ ,  $SD = 0.15$ ), but the difference between female first-year ( $M = 3.38$ ,  $SD = 0.10$ ) and third-year ( $M = 3.49$ ,  $SD = 0.13$ ) students was markedly smaller.

### ***Attitudes toward Plagiarism Induced by Different Causes***

Descriptive statistics for the four scales on acceptability of plagiarism induced by different causes are presented in Table 5. The mean scores showed that in general the participants held negative attitudes toward plagiarism induced by all categories of listed causes. Even the most leniently rated kind of plagiarism (i.e., plagiarism caused by inadequate academic ability) had only a mean score of 2.91, which fell between “largely unacceptable” and “neutral” (i.e., noncommittal). Notably, two-fifths of the participants were noncommittal about the nature of this kind of plagiarism. In contrast, only 8.65% of the participants took a neutral position on plagiarism induced by slack attitudes. The mean score of acceptability for this kind of plagiarism was the lowest, bordering between “largely unacceptable” and “completely unacceptable.” With regard to plagiarism caused by pressure and perceived low risk of plagiarizing, although some students were somewhat more tolerant than they were in the case of plagiarism stemming from slack attitudes, more than half of the participants expressed their explicit disapproval of such plagiaristic behaviors, especially plagiarism

induced by perceived low risk of plagiarizing and being caught.

The ANOVAs run on the acceptability judgment identified only a significant main effect of year of study on acceptability of plagiarism caused by slack attitudes,  $F(1, 265) = 17.284, p < .001, \eta_p^2 = .063$ . Third-year students ( $M = 2.01, SD = 1.02$ ) were significantly more lenient toward plagiarism caused by slack attitudes than were first-year students ( $M = 1.60, SD = 0.76$ ). However, no main effect was found for either discipline or gender on acceptability of plagiarism induced by any of the causes. There was a significant interaction between discipline and year of study for acceptability of plagiarism caused by slack attitudes,  $F(1, 265) = 3.928, p = .049, \eta_p^2 = .015$ . The interaction occurred because while first-year students from the soft disciplines ( $M = 1.51, SD = 0.12$ ) were slightly harsher than their third-year counterparts from the hard disciplines ( $M = 1.67, SD = 0.11$ ), third-year students from the soft disciplines ( $M = 2.28, SD = 0.15$ ) were more lenient than their third-year counterparts from the hard disciplines ( $M = 1.95, SD = 0.13$ ). A significant gender/discipline interaction was also found for acceptability of plagiarism caused by perceived low risk of plagiarizing,  $F(1, 265) = 4.131, p = .043, \eta_p^2 = .016$ . While female ( $M = 2.14, SD = 0.14$ ) and male ( $M = 2.09, SD = 0.12$ ) students from the hard disciplines were about equally harsh, female students from the soft disciplines ( $M = 2.07, SD = 0.10$ ) were clearly harsher than their male counterparts ( $M = 2.57, SD = 0.18$ ).

### ***Attitudes toward Plagiarism in General***

As can be seen from Table 6, which summarizes descriptive statistics for the three scales assessing attitudes toward plagiarism in general, over two-thirds of the participants held condemnatory attitudes toward plagiarism, regarding it as a form of cheating, a form of stealing, a wrong act, an academic crime, a shameful act, and/or an immoral act. Only about 10% of the participants were non-condemnatory toward instances of plagiarism. Notably, more than three-fifths of the participants thought that treatment of plagiarism should be differentiated according to the perpetrator's motives, the amount of plagiarized text, and the presence/absence of intent to cheat. Only about 10% of the participants did not favor such differential treatment. Finally, about one-third of the participants held non-condemnatory attitudes toward plagiarism, believing that plagiarism is a learning process, that such intertextual practices are understandable, and that an insubstantial amount of plagiarism is forgivable. The majority of the participants, however, either disagreed with such non-condemnatory attitudes or did not take a position.

The ANOVAs on the data collected with the attitudinal scales revealed a significant main effect of

year of study on condemnatory attitudes toward plagiarism,  $F(1, 261) = 4.384, p = .037, \eta_p^2 = .017$ . Third-year students ( $M = 3.58, SD = 0.10$ ) were significantly more lenient toward plagiarism than were first-year students ( $M = 3.86, SD = 0.09$ ). No other significant main or interaction effects were identified.

## Discussion

### *Disciplinary Influences on Perceptions of Plagiarism*

With respect to the first research question regarding the relationship between disciplinary and perceptions of plagiarism, this study identified several significant main effects of disciplinary background. To begin with, students of the soft disciplines were more likely than their counterparts from the hard disciplines to identify as plagiarism intertextual practices that are widely recognized as blatant and subtle plagiarism in the Anglo-American academic world. This finding was consistent with those reported in previous studies (Hayes & Introna, 2005a; Hu & Lei, 2012; Rinnert & Kobayashi, 2005; Shi, 2012). The observed disciplinary differences can be explained in terms of distinct epistemological assumptions, the nature of scientific language, and disciplinary practices between hard and soft disciplines. As pointed out by several scholars (e.g., Bazerman, 1994; Bouville, 2008; Flowerdew & Li, 2007a), there is a greater epistemological separation of ideas and language in hard sciences than in soft disciplines. Although the latter depend much on the use of language to construct ideas and originality, what matter in the former are “facts and theories, not words” (Bouville, 2008, p.314). As one scientist in Shi’s (2012) study explained, “it doesn’t matter to me whether the person changed someone’s words or not” because “the idea is important, not the words” (p.141). Related to this epistemological difference is the recognized formulaicity of scientific language (Flowerdew & Li, 2007a), which, to many hard scientists (see Pecorari & Shaw, 2012), justifies the reuse of others’ wording in some parts of a research paper. Another contributing factor to the observed disciplinary differences in perceptions of improper intertextual practices may lie in the type and amount of academic training the participants had received (see Chandrasegaran, 2000; Shi, 2010). Rinnert and Kobayashi (2005), for example, noted that in the process of their disciplinary enculturation students of hard and soft disciplines tend to have varying exposure to source use practices and, consequently, develop different conceptions of acceptable intertextual practices.

Another discipline-based difference identified in this study concerned the perceived likelihood of plagiarism stemming from slack attitudes as reflected in laziness, unwillingness to think, and low

investment in assignments. Compared with previous research on plagiarism (e.g., Ashworth et al., 1997; Park, 2003; Song-Turner, 2008; Wilkinson, 2009), slack attitudes were perceived to be a more prevalent cause of plagiarism by the participants as a group. Moreover, students of the soft disciplines were more likely to see slack attitudes as a cause of plagiarism than their counterparts from the hard disciplines. A straightforward explanation for this discipline-based difference would be that the perceptions reflected the reality on the ground; that is, slack attitudes may have indeed prevailed as a cause of plagiarism to a markedly greater extent in the soft disciplines. A related and complementary explanation may lie in the greater knowledge that participants from the soft disciplines had of plagiarism and strategies for avoiding illegitimate intertextual practices, for example, paraphrasing or summarizing a source text with acknowledgement instead of copying chunks of text verbatim. This knowledge could have led them to think that plagiarism avoidance was a laborious undertaking requiring considerable vigilance and much effort, which may in turn have made them see plagiarism largely as a result of inadequate attitudes and effort. Another potential explanation concerns the participants' tendency to make certain types of causal attribution. Roig and Ballew (1994) found that students in male-dominated hard disciplines were more likely to breach academic integrity and make external causal attributions to neutralize or rationalize their behavior. If our participants from the hard disciplines were subject to a similar attributional tendency, it would be less likely for them than their counterparts from the soft disciplines to see internal factors such as slack attitudes as being responsible for plagiarism.

The last explanation was, however, somewhat undermined by the finding that there was no statistically significant differences between participants from the soft and the hard disciplines in their perceptions of the acceptability of plagiarism induced by any of the four categories of causes. In other words, participants from the hard disciplines were not more tolerant of plagiarism stemming from any of these causes than participants from the soft disciplines. Nor did the former differ from the latter in attitudes – condemnatory, differential or non-condemnatory – toward plagiarism in general. These results were different from those of previous studies that found students of hard disciplines such as science and engineering more likely to plagiarize (Flowerdew & Li, 2007b; Park, 2003; Selwyn, 2008) or more lenient toward plagiarism (Rinnert & Kobayashi, 2005; Shi, 2012). However, they were consonant with Wheeler's (2009) finding that Japanese university students majoring in different disciplines did not differ in their punitive ratings of plagiarized texts. What internal and external

factors may have contributed to this lack of difference in attitudes toward plagiarism between students from the hard and the soft disciplines cannot be addressed based on the available data and, consequently, is an issue that merits further research.

### ***Enculturational Effects on Perceptions of Plagiarism***

In this study, year of enrolment was used as a measure of the participants' relative experience with higher education and, consequently, a proxy indicator of enculturation in academia. No statistically significant effects for year of enrolment were found on the participants' understandings of whether certain textual practices widely regarded as plagiarism in Anglo-American academic communities constitute (il)legitimate intertextuality for themselves. This finding apparently ran counter to an enculturational perspective on plagiarism, which posits that knowledge about plagiarism may increase with exposure to academia (Hu & Lei, 2012). It was also inconsistent with previous studies (e.g., Abasi et al., 2006; Breen & Maassen, 2005; Chandrasegaran, 2000; Deckert; 1993; Lei, 2010) which reported effects of academic socialization on knowledge about plagiarism among students studying at Australian, Canadian, Hong Kong, and Singaporean universities. This inconsistency between the present and previous studies can be explained by the nature of academic socialization concerning intertextual practices that Chinese undergraduate students typically receive. Several researchers have pointed out that the Chinese educational system encourages students to memorize, imitate, and reproduce authoritative writings (Hu, 2002; Wu & Zhang, 2000), depends on formal memory-based exams to assess students' learning (Hayes & Inrona, 2005a), and provides little opportunity to engage students in extended writing tasks involving source use in either Chinese or English (Hayes & Inrona, 2005b; Mu & Xu, 2009; Zhang et al., 2008). In addition, course readings are in Chinese, and there is limited exposure to English academic writing and its intertextual conventions. Furthermore, the College English classes that Chinese university students take as part of their undergraduate education do not prepare them to write from sources or introduce them to Anglo-American conventions for referencing and attributing sources (Li & Casanave, 2012). Given this lack of academic socialization into Anglo-American conceptions of plagiarism, it is little surprise that the third-year participants did not know more than their first-year peers about what is regarded as (il)legitimate intertextuality in Anglo-American academia (cf. Russikoff, Fucaloro, & Salkauskiene, 2003).

The first-year and third-year students did not differ in their perceptions regarding the likelihood

of plagiarism stemming from inadequate academic ability, slack attitudes, pressure, or perceived low risk of plagiarizing. This result is expected if the mix of various causes of plagiarism remained stable throughout their undergraduate years. In contrast, year of enrolment was found to be systematically related to perceptions of the acceptability of plagiarism arising from slack attitudes. Specifically, the third-year students found such plagiarism more acceptable than their first-year peers. Year of enrolment was also found to interact with disciplinary background to affect perceived acceptability of slack attitudes-induced plagiarism: While the difference between first-year students from the soft and hard disciplines was negligible, the third-year soft-discipline students were more tolerant than their hard-discipline counterparts. Furthermore, the third-year students as a group were more lenient in their attitudes toward plagiarism in general than the first-year students. These disconcerting patterns of relationships were broadly commensurate with results reported in several studies (e.g., Selwyn, 2008; Walker, 2010) of plagiarism among Anglo-American students but were inconsistent with previous studies (e.g., Chandrasegaran, 2000; Deckert, 1993) of second language students that found senior students more negative toward plagiarism than their junior counterparts. The greater tolerance of slack attitudes-induced plagiarism by the third-year students as a group and those from the soft disciplines in particular may be accounted for by the increasing pressures felt by these students to obtain good academic results so that they could go to good graduate schools at home, further their education at reputable overseas universities or land themselves a good job in the highly competitive employment market (Li, 2007; Mu & Xu, 2009; Sapp, 2002; Walker, 2010). Under such pressures, some of the students may have perceived plagiarism as a more acceptable shortcut to success than their juniors did (Ashworth et al., 1997).

Although the third-year students self-reported greater leniency toward plagiarism in general and that induced by slack attitudes in particular, one must not infer on the basis of these data that they committed plagiarism more often. As a matter of fact, the effects that year of enrolment had on perceptions of the acceptability of slack attitudes-induced plagiarism and condemnatory attitudes toward plagiarism were quite limited if the absolute values of the participants' ratings were taken into account. The third-year students' mean score for the condemnatory attitude scale, albeit lower than the first-year students', was 3.58 out of a possible maximum of 5 and still indicated an overall condemnatory stance to plagiarism. Likewise, their mean rating of the acceptability of slack attitudes-induced plagiarism, though higher than their junior counterparts', was only 2.01,

corresponding to a “largely unacceptable” response. Notably, plagiarism caused by slack attitudes was seen as the most unacceptable by both first-year and third-year students, probably because of the traditional Chinese emphasis on the importance of attitude and diligence in education (Biggs, 1996; Hu, 2002; Tweed & Lehman, 2002). When considered together with the participants’ limited knowledge of intertextual practices widely regarded as plagiarism in Anglo-American academia, these results constituted some evidence against a culturally essentializing claim about Chinese culture being accepting of plagiarism (see Russikoff et al., 2003; Sapp, 2002; Sowden, 2005) and suggested that Chinese students’ “apparent condoning of what is regarded as plagiarism in Western academic circles does not reflect a cultural acceptance of the act but may result from a lack of knowledge about the Anglo-American notion of plagiarism” (Hu & Lei, 2012, p.26).

### ***Gender Effects on Perceptions of Plagiarism***

Unlike previous studies (McCabe & Trevino, 1997; Roig & Ballew, 1994; Selwyn, 2008; Whitley et al., 1999), this study found no main effect of gender on the participants’ perceptions of plagiarism. However, gender was found to interact with disciplinary background and enculturation in complex ways to shape their knowledge of and attitudes toward plagiarism. To begin with, there was a between gender/discipline interaction effect on the participants’ knowledge of intertextual practices viewed as blatant plagiarism in Anglo-American academia. Although female participants from the soft disciplines reported more knowledge than their male counterparts, the reverse pattern was found between male and female students from the hard disciplines. An explanation invoking Gilligan’s (1993) sex-role socialization theory, which holds that women have been socialized to obey conventional norms, could account for why female participants from the soft disciplines were more likely than male participants from the same disciplines to recognize certain intertextual practices as illegitimate. The same account, however, could not explain why female students from the hard disciplines had markedly less knowledge of these intertextual practices than their male counterparts. A second explanation, based on the gendered nature of hard disciplines such as sciences and engineering (Becher & Trowler, 2001), may account for why female students from the hard disciplines had less knowledge of illegitimate intertextuality than their counterparts from the soft disciplines by positing that women in male-dominated disciplines are influenced by male role norms characterized by minor transgressions (Whitley et al., 1999). However, it was unable to explain why male students from the hard disciplines had more knowledge than their female counterparts. Clearly, further research,

especially qualitative inquiry that utilizes a phenomenological methodology (Ashworth, Freewood, & Macdonald, 2003), is needed to understand the puzzling gender/discipline interaction.

Gender was also found to interact with disciplinary background in the participants' perceptions of the likelihood of pressure as a cause of plagiarism. More specifically, male students from the hard disciplines were significantly more likely to view pressure as a cause of plagiarism than their counterparts from the soft disciplines, whereas there was only trivial difference between female students from the soft and hard disciplines. This pattern of relationship might have been due to the culture of male-dominated hard disciplines which has been characterized by stiff competition for good grades, strenuous curricular demands, and difficulty of materials (Whitley et al., 1999). Given these disciplinary characteristics, male students from such disciplines could be expected to more likely make external causal attributions and perceive pressure to obtain good academic results as a likely cause of plagiarism (Roig & Ballew, 1994; Whitley, 1998). Additionally, a gender/year of enrolment interaction was found in perceptions of pressure as a likely cause of plagiarism. While first-year and third-year female students did not differ in their perceptions, first-year male students were more likely to see pressure as a cause of plagiarism than third-year male students. These results may be attributable to possibly greater challenges and academic pressures that first-year male students might have experienced in their transition from high school to college life. This is an avenue of research worth pursuing.

Finally, gender interacted with disciplinary background to affect the participants' views of the acceptability of plagiarism arising from perceived low risk of plagiarizing and being caught. Specifically, male students from the soft disciplines rated the acceptability of this kind of plagiarism markedly higher than their counterparts from the hard disciplines, whereas female students from the soft and hard disciplines differed minimally in their acceptability ratings. This pattern of relationships was consistent with previous studies on attitudes toward academic dishonesty (e.g., Lin & Wen, 2007; McCabe & Trevino, 1995; Newstead et al., 1996; Whitley et al., 1999) which also noted greater attitudinal difference in female-dominated soft disciplines than in male-dominated hard disciplines. There are two possible explanations of the observed interaction. The first one is based on gender-based identity needs. Previous research has found that male students tend "to perceive minor deviance and risk-taking to be part of the male gender role" (Whitley et al., 1999, p.658) and that they are more sympathetic to plagiarism or take it less seriously than their female peers (Kroll, 1988;

Szabo & Underwood, 2004; Underwood & Szabo, 2003). In light of these findings, the interaction effect observed in this study might arise from a need of the male students from the soft disciplines to maintain a distinct gender identity in the female-dominated disciplines. The second explanation of our finding is informed by research on self-orientations (Triandis, 1989) and their relationships to plagiarism. Whitley et al. (1999, p.658) identified a general tendency for men “to be socialized to be more individualistically oriented.” Several studies (e.g., Chapman & Lupton, 2004; Martin, 2012) reported positive correlations between individualist self-orientations and the likelihood to engage in illegitimate intertextuality. Although all our participants came from a society characterized as collectivist (Hofstede, 2001; Triandis, 1989), self-orientations can be “reflected at both the cultural and individual level” (Martin, 2012, p. 263). Thus, male students from the soft disciplines might have stronger individualist self-orientations than their peers from the hard disciplines and were consequently more sympathetic to textual misuse. Future research needs to investigate whether the tendency identified in this study is also observable in male students of other soft disciplines and what factors in their life-worlds may contribute to it.

### **Conclusion**

Several broad implications can be derived from the findings of this study. First, in view of the participants’ limited knowledge of Anglo-American intertextual conventions, it is imperative that Chinese students (and, for that matter, international students in general) who intend to study at Anglo-American universities and who aspire to publish in English be provided with instructional opportunity to learn about and acquire an understanding of Anglo-American norms for appropriate source use. For these Chinese students, a lack of knowledge about such norms, coupled with limited communicative competence in academic English, is a sure recipe for plagiarism (Flowerdew & Li, 2007a; Song-Turner, 2008). Second, because Chinese students’ understandings of appropriate intertextuality, shaped by their cultural and educational traditions, are different from Anglo-American conceptions of legitimate source use, teachers at Anglo-American institutions of higher learning who have Chinese students (and international students from other societies) in their classes can contribute greatly to these students’ academic socialization into institutionally valued literacy practices by endeavoring to understand their previous educational and literacy experience and develop a cross-cultural sensitivity to different intertextual practices. They are in a powerful position to help their international students negotiate textual practices appropriate to the new academic culture the

latter find themselves in and navigate through the treacherous terrain of culturally sanctioned intertextuality (Howard, 2007). Last but not least, several findings of this study – the participants’ limited knowledge of illegitimate intertextuality in Anglo-American academia, their general dismissal of low risk of being caught as a cause of plagiarism, and their overall condemnatory attitudes toward plagiarism – suggest that institutional plagiarism policies that are based on deterrence theory and focus on detection and punishment are unlikely to be effective for Chinese students resembling those involved in the present study. Rather, the same findings suggest, an educative approach that is premised on “working with students rather than working against them” (Selwyn, 2008, p.477) holds much greater promise (Ashworth et al., 1997; Howard, 1995). Future research should focus on developing effective instructional strategies and tasks that can raise international students’ awareness of cross-cultural differences in intertextuality, develop their knowledge of (in)appropriate source use in Anglo-American academic culture, and equip them with the requisite skills and strategies to engage in legitimate textual appropriation.

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### **Note**

A copy of the survey instrument can be obtained by contacting the corresponding author at:  
[guangwei.hu@nie.edu.sg](mailto:guangwei.hu@nie.edu.sg).

Table 1

*Demographic Information about Participants*

Year	Gender	Soft discipline		Hard discipline	
		English	Business	Computer	Mechanical
Year 1	Female	32	22	19	15
	Male	2	18	13	19
Year 3	Female	28	29	15	3
	Male	2	10	17	26

Table 2

*PoP Components and Internal Consistency Estimates*

Section and Scale	No. of items	$\alpha$
<i>Section 1: Knowledge of Improper Source Use</i>		.78
Knowledge of blatant plagiarism	4	.69
Knowledge of subtle plagiarism	3	.80
Knowledge of inappropriate referencing	3	.58
<i>Section 2: Likelihood of Different Causes of Plagiarism</i>		.71
Inadequate academic ability	4	.65
Slack attitudes	3	.81
Pressure	4	.72
Perceived low risk of plagiarizing	4	.77
<i>Section 3: Acceptability of Plagiarism Induced by Different Causes</i>		.87
Acceptability of plagiarism caused by inadequate academic ability	4	.84
Acceptability of plagiarism caused by slack attitudes	3	.89
Acceptability of plagiarism caused by pressure	4	.81
Acceptability of plagiarism caused by perceived low risk	4	.89
<i>Section 4: Attitudes toward Plagiarism in General</i>		.86
Condemnatory attitudes	6	.91
Differential treatment	3	.66
Non-condemnatory attitudes	3	.72

Table 3

*Descriptive Statistics for Knowledge of Improper Source Use*

Scale	N	% of participants <sup>a</sup>					M	SD
		1	2	3	4	5		
Blatant plagiarism	267	2.62	12.36	26.59	34.83	24.60	3.51	1.02
Subtle plagiarism	265	22.64	33.96	16.98	19.62	6.79	2.53	1.20
Improper referencing	268	10.45	34.70	38.43	11.57	4.85	2.65	0.95

*Note.* 1 = definitely not plagiarism, 2 = probably not plagiarism, 3 = unsure, 4 = probably plagiarism, 5 = definitely plagiarism.

<sup>a</sup>Percentages may not add up to 100 % because of rounding off.

Table 4

*Descriptive Statistics for Perceived Likelihood of Different Causes of Plagiarism*

Scale	N	% of participants <sup>a</sup>					M	SD
		1	2	3	4	5		
Inadequate academic ability	268	2.61	4.85	27.24	49.25	16.04	3.60	0.86
Slack attitudes	270	1.48	2.22	7.04	37.04	52.22	4.35	0.78
Pressure	269	4.09	8.55	29.00	39.78	18.59	3.47	0.96
Perceived low risk	269	7.06	29.74	33.46	21.56	8.18	2.82	1.03

*Note.* 1 = probably not a cause, 2 = possibly not a cause, 3 = unsure, 4 = possibly a cause, 5 = probably a cause.

<sup>a</sup>Percentages may not add up to 100 % because of rounding off.

Table 5

*Descriptive Statistics for Acceptability of Plagiarism Induced by Different Causes*

Scale	N	% of participants <sup>a</sup>					M	SD
		1	2	3	4	5		
Inadequate academic ability	260	5.76	21.92	39.23	29.23	3.85	2.91	0.91
Slack attitudes	266	48.12	36.47	8.65	4.51	2.26	1.79	0.91
Pressure	266	20.30	33.83	29.32	15.04	1.50	2.33	0.94
Perceived low risks	266	30.45	32.33	23.31	12.41	1.50	2.15	1.00

*Note.* 1 = completely unacceptable, 2 = largely unacceptable, 3 = neutral, 4 = largely acceptable, 5 = completely acceptable.

<sup>a</sup>Percentages may not add up to 100 % because of rounding off.

Table 6

*Descriptive Statistics for Attitudes toward Plagiarism in General*

Scale	N	% of participants <sup>a</sup>					M	SD
		1	2	3	4	5		
Condemnatory attitudes	262	2.29	8.40	21.76	38.93	28.63	3.78	0.97
Differential treatment	260	2.69	6.92	29.23	48.08	13.08	3.60	0.85
Non-condemnatory attitudes	259	4.25	21.62	39.38	30.12	4.63	3.07	0.88

*Note.* 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

<sup>a</sup>Percentages may not add up to 100 % because of rounding off.

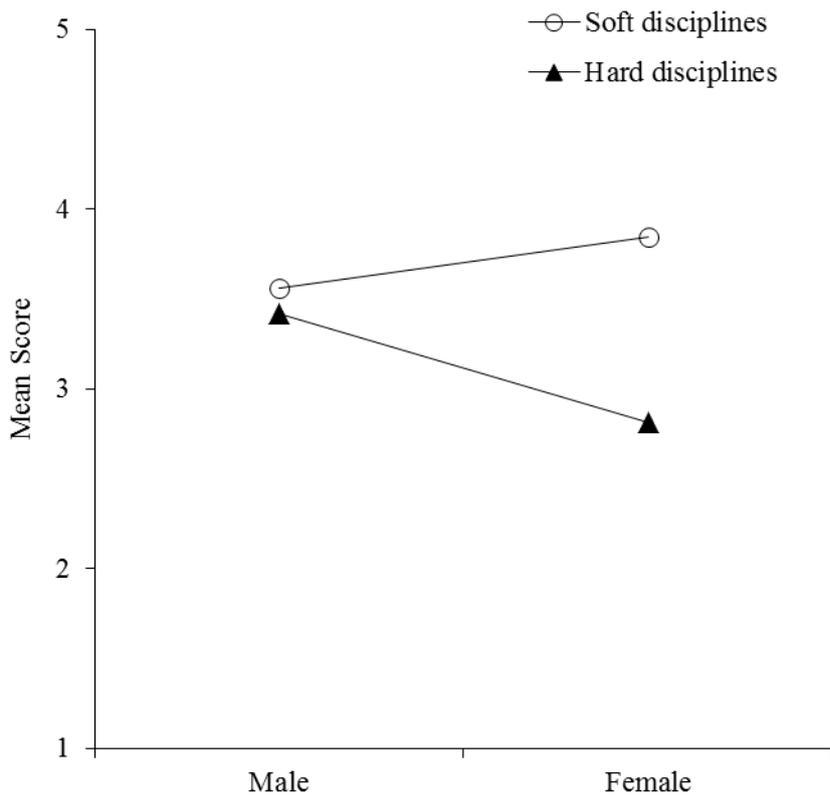


Figure 1 *Knowledge of Blatant Plagiarism by Gender and Discipline*

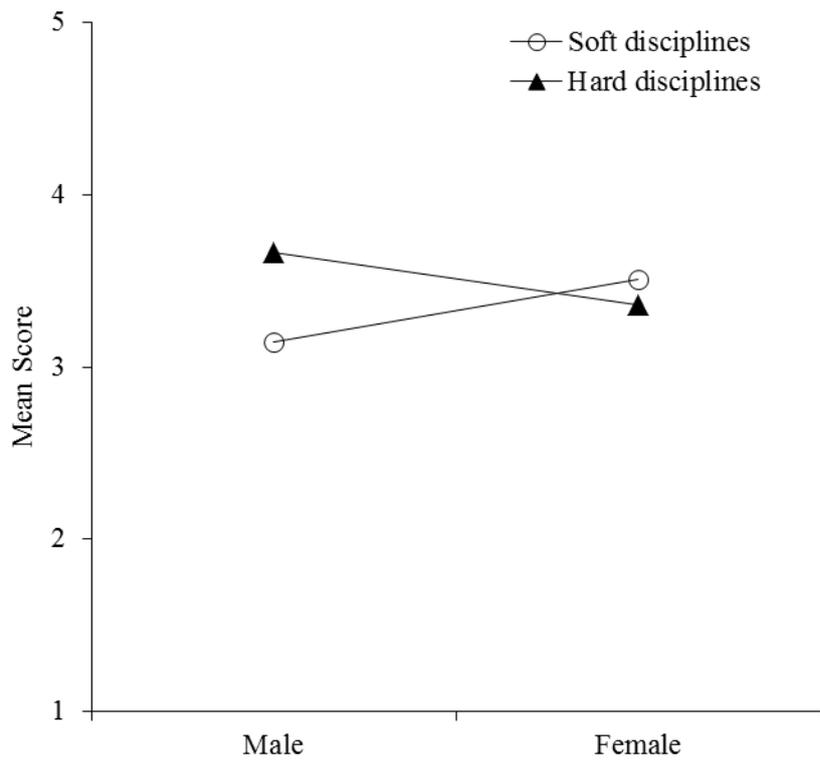


Figure 2 *Likelihood of Pressure as a Cause of Plagiarism by Gender and Discipline*

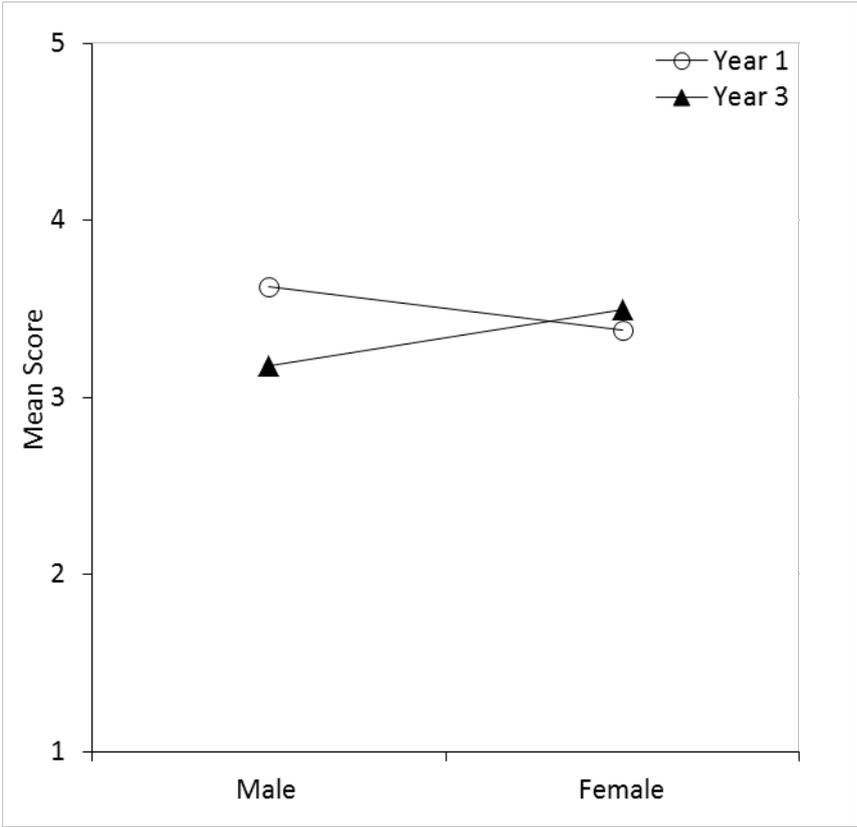


Figure 3 Likelihood of Pressure as a Cause of Plagiarism by Gender and Year of Study

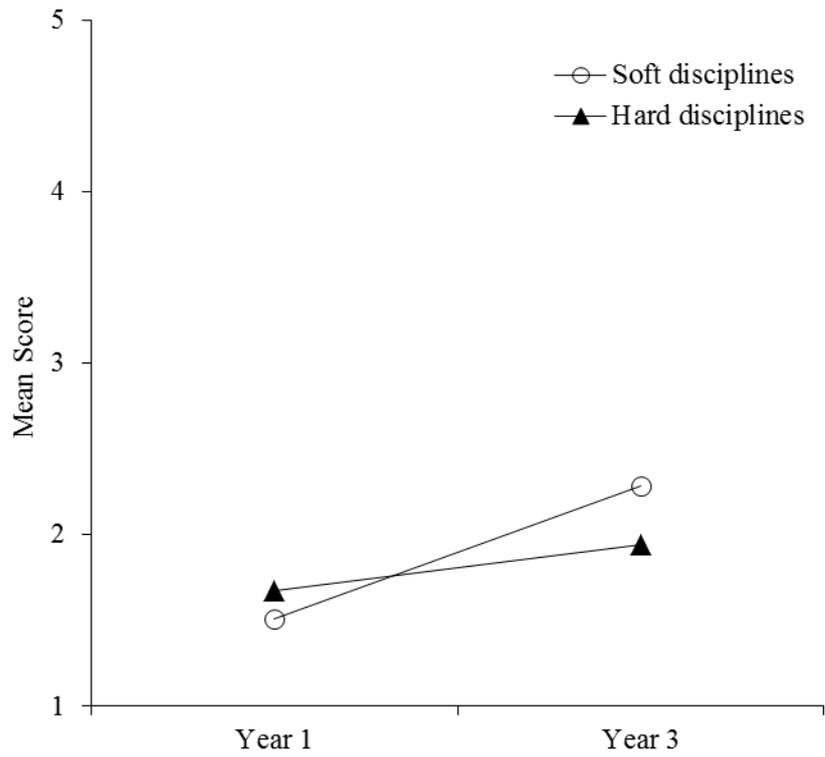


Figure 4 Acceptability of Plagiarism Caused by Slack Attitudes by Year of Study and Discipline

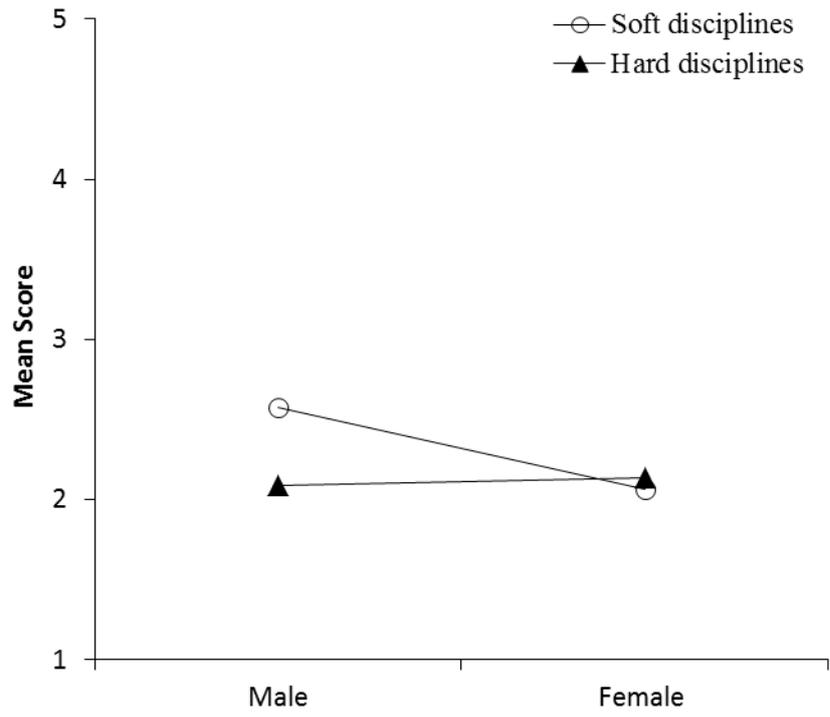


Figure 5 Acceptability of Plagiarism Caused by Perceived Low Risk by Gender and Discipline