

The 4PA of plagiarism: A psycho-academic profile of plagiarists

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Abstract

Plagiarism is considered to be a serious transgression in the academic world. Due to the perception that plagiarism is rampant among both students and professors, the Indonesian government has established policies to prevent plagiarism in academia. Varieties of sanctions, ranging from score reduction to the revocation of granted academic titles have been applied to those who are caught committing this serious academic offense. However, the severity of the sanctions seems unable to put an end to plagiarism. Because severe sanctions seem unable to eradicate or even alleviate plagiarism, it might be assumed that the tendency towards plagiarism is a personal trait. Regardless of the presence or absence of opportunities and the severity of the potential sanctions, some individuals seem to be prone to plagiarism. In this study, five variables were used as predictors of plagiarism: procrastination, performance, personality, perfectionism, and achievement motivation. They were chosen to represent personal inclination, ability, and value, which separately have been reported to be correlated with plagiarism (Williams, Nathanson, & Paulhus, 2010). This study tries to combine those variables and has named it the 4PA of plagiarism.

This study used a sample of 362 undergraduate psychology students. The data were collected during the students' final exam, using seven scales. Plagiarism was measured using the Academic Practices Survey (APS) (Roig & DeTommaso, 1995) and the Personal Experiences with Plagiarism Scale (PEPS) (Bouman, 2009). Procrastination was measured using the Aitken Procrastination Inventory (API) (Aitken, 1982) and the Procrastination Assessment Scale – Student (PASS) (Solomon & Rothblum, 1984). Academic score performance was taken from the faculty's academic archives (subjects' GPAs and scores in Introduction to Psychology). Personality was measured using the International Personality Item Pool (IPIP) (<http://ipip.ori.org/>). Perfectionism was measured using the Almost Perfect Scale (APS-SO) (Slaney, Rice, Mobley, Trippi, & Ashby, 2001). Achievement motivation was measured using the Achievement Motivation Inventory (AMI) (Schuler, Thornton, Frintrup, & Mueller-Hanson, 2004).

Both plagiarism scales (APS and PEPS) produced similar results ($r=.419$). Four of the five predictors have significant correlations with plagiarism. The highest correlations were found between plagiarism and the frequency of procrastination/PASS ($r_{APS} \& r_{PEPS} = .270 = .202$) and habitual procrastination/API ($r_{APS} = .217 \& r_{PEPS} = .173$). Plagiarists tend to have low conscientiousness (IPIP; $r_{APS} = -.212 \& r_{PEPS} = -.178$). A small but significant correlation was found between plagiarism and perfectionism (APS-SO; $r_{APS} = -.143 \& r_{PEPS} = -.124$). Plagiarists tend to have low achievement

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motivation (AMI; $r_{APS} = -.219$ & $r_{PEPS} = -.183$). Plagiarism is not significantly correlated with academic achievement. The contribution of the four predictor variables was rooted in academic procrastination. The dynamics of these variables for predicting plagiarism are discussed.

Introduction

In August 2010, the Ministry of Education and Culture of the Republic of Indonesia issued a regulation related to the prevention and mitigation of plagiarism in higher education. This regulation was issued due to widespread plagiarism in the academic world. The violators came from diverse backgrounds, ranging from undergraduate students to professors ("Terbukti Plagiat, Gelar Profesor Dicopot", 2011; Utomo, 2010; Warastri & Kusumaputra, 2011). Repeated violations in large numbers and of high severity have forced the government to address all forms of systematic or random plagiarism, whether deliberate or accidental. The Indonesian government insists that any form of plagiarism is a serious offense that may even be classified as an illegal action.

Threats of sanctions, including reprimands, written warnings, dishonorable discharge, and the revocation of academic degrees, have been used to address these academic violations. Unfortunately, despite the threat of sanctions, these offenses continue to flourish. Whether it results from despair, the hope of cheating without being caught, or willingness to risk the threatened sanctions, some members of the academic community seem unable to stop committing plagiarism.

Even when sanctions are applied, some people continue to plagiarise at different times and at a variety of different levels. Plagiarism is even equated with addictive behaviours, such as cigarette smoking, food, sex and gambling (Widdicombe, 2012). Researchers studying plagiarism have observed specific characteristics that may serve as potential indicators of plagiarism, such as Asian ethnicity (Hayes & Introna, 2005), particularly Chinese ethnicity (Li & Xiong, 1996). The habit of copying or memorising subject matter in these cultures may produce resistance to bans on plagiarism. Students in Asia, who have long believed that the accuracy of answers is determined by their similarity to a reference book or source, may be confused when this similarity is no longer respected but rather is rejected and penalised (Introna & Hayes, 2007)

Academic dishonesty in the form of plagiarism is often found in the work of international or foreign students who use English as a second language (Sowden, 2005). In this case, the lack of English language skills may be one reason for plagiarism because it is difficult for these students to understand and represent ideas in a foreign (second) language. A low expectation of legitimately succeeding at a task (which is considered important) increases the likelihood that students will perform the work inappropriately (such as by plagiarising).

McCabe, Trevino, and Butterfield (2001) noted that studies on academic cheating have examined individual and situational factors that trigger misconduct. In the area of individual factors, they found that plagiarists were often characterised as male students with poor academic performance and a low work ethic. Situational factors, faculty predispositions and reactions such as regulations, threats of sanctions, and honour codes were reported as influential factors that affect students' academic integrity. Acquiescence of rules, as well as the dissemination of the harmful effects of academic cheating have been reported to be effective in reducing the impact of academic misconduct. The transfer or sharing of responsibilities to students, by involving their peers in the judgment of the presence of plagiarism, as well as providing more rigorous restrictions (what can and can not be done) seem to be quite effective in reducing the commonly used rationalisations to justify academic misconduct.

Academic achievement warrants special attention. Numerous studies have reported negative correlations between academic achievement and academic misconduct. This is especially true of studies based on self-reports, which should be interpreted carefully. This negative correlation may have many meanings. Nowell and Laufer (1997) suggested that one reason for the negative correlation between plagiarism and academic achievement was that students with poor performance have little at stake when they consider cheating. Students who are in danger of being expelled may believe that despite the risk of being caught, the chance of success from cheating is greater than the possibility of succeeding by performing the work honestly.

Nowell and Laufer's suggestion seems reasonable. For students with poor or mediocre academic achievement, being caught cheating leads to a score reduction or dismissal. These threats are not significantly different from the results they may obtain from performing the work honestly. Thus, plagiarism may even be seen as a more clever and promising choice. From the plagiarist's perspective, honesty would lead to poor scores. In contrast, when students plagiarise or cheat, their scores are likely to be much better despite the risk of being caught.

When faced with two choices that are equally risky, the decision to choose the action that promises the higher success rate may be the better choice. Therefore, it is not surprising that some students choose to commit misconduct, fraud or plagiarism. This decision is further reinforced by their peers' stories of successful experiences of cheating. When the experience of being caught is interpreted simply as bad luck this has the potential to contribute to the perception that fraudulent behaviour has a higher utility than honest behaviour (Steel, 2007; Steel & König, 2006).

Another argument regarding the negative correlation between plagiarism and academic achievement is that in self-reports, high academic achievers may be embarrassed to admit to cheating (McCabe & Trevino, 2002). Those high achievers might feel threatened by allegations that all of their works are the result of academic fraud. Nowell and Laufer (1997) and Pritchett (2010) suggested that greater threats of losing honour and other privileges may make high-achieving students think twice before committing or admitting to fraud.

In the scientific study of behaviour, it is indisputable that plagiarism is a negative or even destructive behaviour. Plagiarism has been correlated with other negative constructs, such as procrastination (Roig & DeTomasso, 1995). Roig and DeTomasso (1995) found significantly more plagiarism among students who were high procrastinators than among low procrastinators. Based on data from 115 college undergraduate students, they suggested that procrastination may be considered to be a mediator of academic dishonesty.

Despite the availability of opportunities to plagiarise and the severity of sanctions, some researchers believe that plagiarism is related to personal predispositions (Williams, Nathanson, & Paulhus, 2010). These authors report certain constructs that are highly influential predictors of plagiarism or academic cheating as part of a more general construct, which they call the dark triad (psychopathy, Machiavellianism, and narcissism). Their study of 228 undergraduate students from the University of British Columbia revealed that self-reported cheating was significantly correlated with psychopathy ($r=.580$), Machiavellianism ($r=.390$), and narcissism ($r=.200$). They also reported statistically significant negative correlations between self-reported cheating and two personality factors: agreeableness ($r=-.230$) and conscientiousness ($r=-.280$).

Wowra (2007) offered a different perspective. He suggested that researchers studying plagiarism should focus not only on why people plagiarise but also on what plagiarists might do in the future. Will a person who is caught plagiarising reduce their inclination to plagiarise, or will they attempt to be a better and smarter plagiarist in the future?

Wowra's literature review suggested that plagiarism was a predictor of erratic behaviours, such as bending or breaking workplace regulations, betraying marriage relationships, and other types of misconduct. He suggested that people who cheat in their educational life tend to continue cheating and are more likely to perform unethical behaviours in pursuit of their goals.

Two related constructs, which are the focus of this research, are perfectionism and achievement motivation. Although these two variables represent different constructs, they are closely related to one another and share a similar correlation with academic cheating and plagiarism. A person with very high perfectionism and achievement motivation is not likely to tolerate any errors, faults, or failures in their work. This dedication to perfection is likely to encourage misconduct. When individual factors (such as ability and energy) and situational factors (such as time, facilities, and other resources) are not available but there is a high expectation of success, a person may require too much energy to maintain his/her integrity (McCabe & Trevino, 2002). McCabe and Trevino (1993) note that in a highly competitive but dishonest academic culture, it is not uncommon for non-cheaters to eventually find that cheating is acceptable. When environmental pressures increase and non-cheaters realise that their peers are obtaining good grades through 'bad' behaviours, the temptation to cheat may be very strong. Bower's seminal work in the 1960s (cited in McCabe & Trevino, 2002) suggested that peer influences may be one of the most powerful predictors of students' cheating.

In this study, five variables were used as predictors of plagiarism: procrastination, performance, personality, perfectionism, and achievement motivation. For simplicity, these variables will be called 4PA, based on the first letter of each variable.

To provide a systematic explanation and discussion, the 4PA variables were framed using Temporal Motivation Theory (TMT) (Steel & König, 2006; Steel, 2007). This framework proposes that the motivation to conduct any activity is rooted in three components: expectancy, value, and impulsivity (Figure 1). People tend to prioritise any activity that is associated with high expectancy and value and with low impulsivity and time delay.

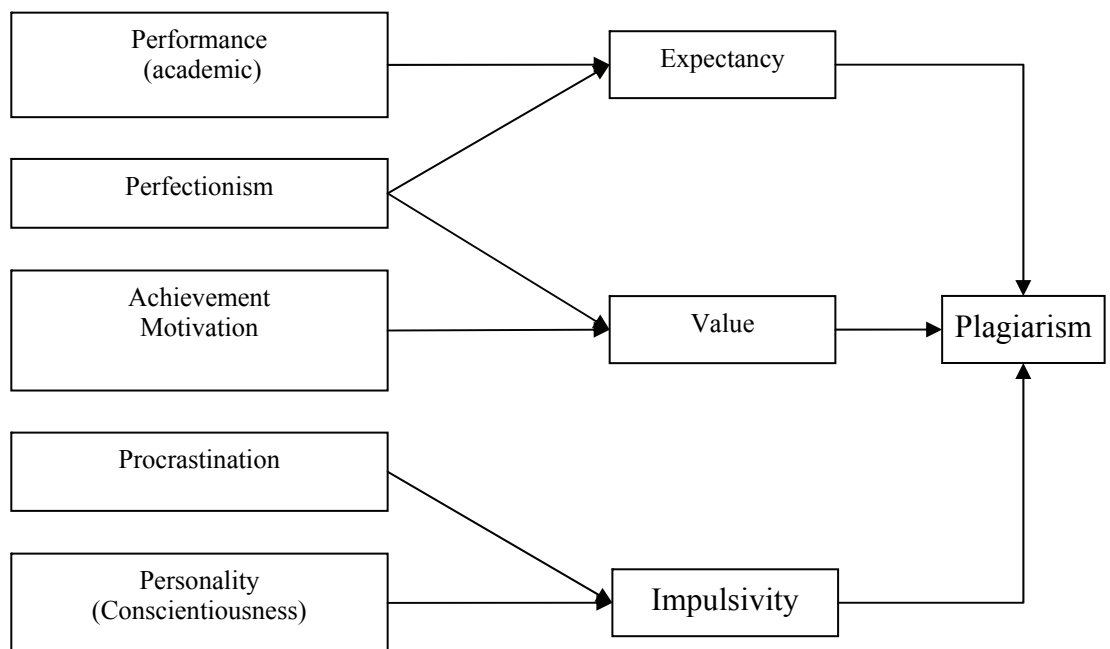


Figure 1. Conceptual Framework

By using TMT as a conceptual framework, inclination to plagiarise could be predicted using three main elements: expectancy, value, and impulsivity. However, it is not always necessary and/or possible to directly measure those variables. In some cases, it would be more convenient and/or appropriate to measure them through some other variables which are believed to be a proper representation of each element.

In this conceptual framework, procrastination and personality (manifested as conscientiousness) are classified as components of impulsivity. These classifications are rooted in the conception that procrastination and conscientiousness could be seen as indicators of impulsivity. Procrastination is highly related and often regarded as inclination to react impulsively. Conscientiousness could be considered as the ability to delay gratification. Performance in academic settings is classified as expectancy. This classification is made in view of academic performance as the manifestation of the ability to handle a task competently. Perfectionism is classified as expectancy and value. Perfectionism is a unique and quite complex construct, so it can be attributed to the ability to complete a task (expectancy) and appreciation of the task (value). Achievement motivation is classified as value. This last variable is seen as a measure of the importance of a task. By measuring these five variables, this study aimed to comprehend a person's expectancy, value, and impulsiveness, which in turn was used to predict the tendency or level of plagiarism.

Method

The participants in this study were 362 undergraduate psychology students. The data were collected during the final exam, and the students were not obligated to participate. At the end of the exam, each student's participation was requested. Any student who completed the questionnaire received brief guidelines for the prevention and eradication of plagiarism in academic settings. Although participation was offered to the entire population, not all students participated in this study. The response rate was approximately 70%.

The participants received two plagiarism scales: the Academic Practices Survey/APS (Roig & DeTomasso, 1995) and the Personal Experiences with Plagiarism Scale/PEPS (Bouman, 2009). Scores for the predictors were collected from the archives of the laboratory of general psychology. Procrastination was measured using the Aitken Procrastination Inventory/API (Aitken, 1982) and the Procrastination Assessment Scale – Student/PASS (Solomon & Rothblum, 1984). Academic scores were taken from the faculty's academic archives (subjects' GPAs and scores in Introduction to Psychology). Personality was measured using the International Personality Item Pool/IPIP (<http://ipip.ori.org/>). Perfectionism was measured using the Almost Perfect Scale/APS-SO (Slaney et al., 2001). Achievement motivation was measured using the Achievement Motivation Inventory/AMI (Schuler et al., 2004).

Most of the scales have good psychometric properties, at least in terms of internal reliability, ranging from .00 to 1.00. A higher score indicates better reliability. The APS scale has a Cronbach alpha of $\alpha=.81$ and $\alpha=.87$ for split-half reliability (Roig & DeTommaso, 1995). Unfortunately, no reliability reports are available for the PEPS. The author's explanation was the inclination toward test-retest reliability, which has also not been reported (Bouman, 2009). The API scale reported good internal reliability, $\alpha=.85$ (Aitken, 1982). Fischer and Corcoran (2007) reported adequate reliability for the PASS ($\alpha=.74$). Another report on the reliability of the PASS was taken from a study in Indonesia, which reported good internal reliability ($\alpha=.863$; Amanda, 2012). The reliability of the IPIP's conscientiousness sub-scale was acceptable ($\alpha=.790$; <http://ipip.ori.org/>). The APS-SO scale for measuring perfectionism also had high internal reliability, ranging from $\alpha=.82$ (order sub-scale) to $\alpha=.91$ (discrepancy sub-scale; Slaney et al., 2001). The last self-report, AMI, which measures achievement motivation, had very high internal reliability ($\alpha=.96$ for the total score) and test-retest reliability ($r=.94$; Schuler et al., 2004).

Results

Self-reports on plagiarism (APS and PEPS) produce positive and significant correlations ($r = .419$; Table 1). These coefficients could range from -1.00 to +1.00. A higher score indicates higher similarity or stronger correlation. The plus-minus symbols represent the direction of correlation. The minus symbol represents a negative or contradictory relationship. The plus symbol represents a positive or linear relationship. For the APS sub-scales, the largest correlation was found between the PEPS score and academic dishonesty ($r = .341$), followed by the other APS sub-scales, partial plagiarism ($r = .333$) and full plagiarism ($r = .272$). Partial plagiarism happens when someone inappropriately uses someone else's idea to complete some part of his/her task. On the other hand, full plagiarism happens when the whole task is actually an inappropriate copy of others' work, whether as compilation from some sources or as an unauthorised duplicate of a single source. These findings suggest that the scales of the APS and PEPs produce more consistent results when the correlation between the scores is based on the total score rather than factor scores. However, the correlation between the APS scores and several other variables produces higher scores when the academic dishonesty sub-scale score is used.

Table 1:
Spearman inter-item correlations

		APS	PEPS	API	PASS	IP	GPA	IPIP	APS- SO	AMI
Academic Cheating (APS)	<i>r</i>	.857*								
Plagiarism (PEPS)	<i>r</i>	.419**	.874*							
	<i>p</i>	.000								
Procrastination (API)	<i>r</i>	.217	.173	.833*						
	<i>p</i>	.000	.001							
Procrastination (PASS)	<i>r</i>	.270	.202	.580	.832*					
	<i>p</i>	.000	.000	.000						
Performance (IP)	<i>r</i>	.088	.103	.095	.143	N.A.				
	<i>p</i>	.373	.296	.335	.147					
Performance (GPA)	<i>r</i>	-.053	-.049	-.024	.137		N.A.			
	<i>p</i>	.392	.425	.694	.025					
Personality (IPIP)	<i>r</i>	-.212	-.178	-.636	-.575	-.062	-.010	.768*		
	<i>p</i>	.000	.001	.000	.000	.531	.874			
Perfectionism (APS-SO)	<i>r</i>	-.143	-.124	-.424	-.407	-.101	-.073	.611	.879*	
	<i>p</i>	.006	.017	.000	.000	.306	.237	.000		
Achievement Motivation (AMI)	<i>r</i>	-.219	-.183	-.458	-.439	-.045	.079	.516	.530	.886*
	<i>p</i>	.000	.000	.000	.000	.649	.199	.000	.000	

* Reliability coefficient (Cronbach alpha)

** The score of .419 is the correlation between the PEPS and APS total scores. The other APS scores use the score for the academic dishonesty sub-scale. The correlation between academic dishonesty and PEPS is $r = .341$ ($p = .000$).

Only four of the five predictors of plagiarism produced statistically significant correlations with plagiarism. Both procrastination scales produced positive and

significant correlations with plagiarism. The frequency of procrastination, which was measured by the PASS, produced a higher correlation with the APS ($r_{APS}=.270$) than with the PEPS ($r_{PEPS}=.202$). Similar findings were reported for habitual procrastination, which was measured with the API ($r_{APS}=.217$ & $r_{PEPS}=.173$).

High similarities between conscientiousness (IPIP-Conscientiousness) and procrastination ($r_{PASS}=-.575$; $r_{API}=-.636$) were reflected in the similarities in the correlational pattern between conscientiousness (IPIP) and plagiarism ($r_{APS} = -.212$ & $r_{C-PEPS} = -.178$). These results were parallel to the correlation pattern for the plagiarism and procrastination scales, especially the API. However, in contrast to the procrastination scores, plagiarism was negatively correlated with conscientiousness.

A negative correlation was also found between perfectionism and plagiarism (APS-SO; $r_{APS} = -.143$; $r_{PEPS} = -.124$). This finding was not expected. Initially, perfectionism was expected to correlate positively with plagiarism. However, in this study, the correlation was negative. These differences are attributed to the unique correlational pattern of perfectionism with plagiarism between adaptive (useful or productive) and maladaptive (useless or even detrimental) perfectionists. In this study, within the adaptive perfectionists group, perfectionism correlated negatively with academic misconduct ($r_{APS}=-.214$; $r_{PEPS}=-.183$). On the other hand, there was no significant correlation between academic misconduct and plagiarism, whether within the maladaptive perfectionist group ($r_{APS}= .020$; $r_{PEPS}=-.082$) or in the non-perfectionist group. More detailed information is presented in Table 2.

Table 2:
Correlations between perfectionism with academic cheating and plagiarism

		Total		Non Perfectionist		Perfectionist Adaptive		Perfectionist Maladaptive	
		APS	PEPS	APS	PEPS	APS	PEPS	APS	PEPS
APS-SO	<i>r</i>	-.143	-.084	-.053	-.11	-.214**	-.183	.02	-.082
	<i>p</i> *	.007	.113	.475	.14	.069	.122	.838	.409
	<i>N</i>	362	360	183	183	73	73	106	104

* sig. (2-tailed).

** Highest correlation coefficient with academic misconduct

APS: Academic Cheating, PEPS: Plagiarism, APS-SO: Perfectionism

Another significant correlation was found between plagiarism and achievement motivation. Individuals with high plagiarism scores tend to have low achievement motivation scores (AMI; $r_{APS} = -.219$ & $r_{PEPS} = -.183$). Similar to perfectionism, although it was expected to have a positive correlation, achievement motivation was negatively correlated with plagiarism.

The last predictor of plagiarism, academic achievement, did not produce a significant correlation. Although many studies have suggested a negative correlation between plagiarism and academic achievement, the results of this study showed no correlation between these two variables. Low correlations were found for both GPA and the Introduction to Psychology scores. Students with both high and low academic scores were equally vulnerable to plagiarism.

Discussion

Of the five variables, procrastination was the best predictor of plagiarism. Further investigation was conducted to identify the best predictors of plagiarism. The investigation was conducted twice, once for the APS and once for the PEPS.

For the APS, seven items were reported as the best predictors and produced positive and significant multiple correlation coefficients ($r=.419$). Of these items, three were from the AMI scale (AMI_18; "When I should convey something in front of others, I was afraid to do things that might make me look stupid", AMI_27; "If there is a risk of failing at a task, I specifically tried harder", & AMI_28; "Other people said that I am doing more than necessary"), two were from the PASS scale (PASS1_A5; "To what degree do you procrastinate on attendance tasks: meeting with your advisor, making an appointment with a professor, etc., and PASS1_B3; "To what degree is procrastination on academic administrative tasks (filling out forms, registering for classes, getting ID card) a problem for you?"), one was from the IPIP (IPIP_38; "Avoiding tasks") and one was from the API (API_18; "I usually arrive on time in the classroom"). For the PEPS, five items were reported as the best predictors ($r=.301$). Of these five items, one item was from the API scale (API_15; "I am immediately doing a task that needs to be done") and two items were from the AMI (AMI_1; "I have not done some activities for fear of failure" and AMI_11; "I have not done some activities for fear of not being successful") and PASS (PASS1_A5; "I was known as a workaholic" and PASS1_A6 scales; "To what degree do you procrastinate on academic activities in general").

One item from the PASS scale ("To what degree do you procrastinate on attendance tasks: meeting with your advisor, making an appointment with a professor, etc.") seemed to be the best item to predict academic cheating ($r=.281$) and plagiarism ($r=.180$). Overall, the items from the procrastination scales, both the PASS (four items) and the API (two items), were the best options to predict academic misconduct. Intense and habitual procrastination seems to cause more negative results than initially imagined.

The variable that seemed to be the second best predictor was achievement motivation (AMI). Five items from this scale can be used as predictors of academic dishonesty and plagiarism. The themes of these items are fear of failure and dedication to the task. Fear of failure indicated an increasing tendency toward academic cheating. In contrast, dedication to the task reduced the inclination to plagiarise. Combined, the findings suggest that plagiarism and academic misconduct may occur more frequently among people who are procrastinators with low achievement motivation.

Conclusion

The nature of plagiarism is slowly but surely revealed through the high correlation between plagiarism and constructs such as procrastination and academic achievement. This study reveals a cross-cultural perspective on this issue. Some findings conflict with previous studies. Although interesting, these contributions should not be taken for granted. As McCabe, Trevino, and Butterfield (2001) note, many studies share the limitation of samples taken from a single location. These limitations suggest that caution is needed when generalising the results.

Regardless of any contradictions or differences in the results, this study also supports the suggestion about the existence of universal personal factors that play a role as predictors of academic misconduct. Various findings on the predictors at both individual and situational factors could be regarded as confirmatory evidence of the urgent need to identify the root of the problem of academic misconduct. Unfortunately,

the same concern has not been expressed to examine the consequences of academic misconduct. Although, a deep understanding of the adverse effects of a behaviour can also be used to decrease the emergence of unexpected behaviour.

By considering that fact, one final statement is taken from Klein's (2011) warning about the threat of plagiarism. Although many plagiarists consider the damaging effect of their conduct, few are aware of the collateral damages of plagiarism, such as undermining the credibility and reputation of their alma mater. Plagiarism is a type of academic misconduct that has serious and ongoing effects. Habitual plagiarism may be followed by other inappropriate behaviours. Given the negative effects of academic dishonesty, we should strive to develop the means to combat it. Our constant aim should be to build a culture of high standards for academic integrity.

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About the author

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