Plagiarism under a Magnifying-Glass

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Abstract

This-paper embodies the-findings from a-small-part, of a-larger-study on-plagiarism, at-the-School of Engineering (SOE). The-study is a-cross-sectional-survey, conducted in-an-institutional-setting. 15 senior academic-members of staff (N=15), from SOE were-invited to-complete a-questionnaire. The-questioner was pre-tested, to-ensure its-validity and reliability. A trial-survey (pre-testing) was conducted, according to ISO 20252:2006 (E). The-Statistical-Package for Social-Sciences (SPSS-17, version 22)-computer software program was-used, to-compute the-Cronbach's alpha coefficient, which demonstrated high-inter-item consistency, and, therefore, reliability (Cronbach's *a=0.803*). Descriptive-statistics was-used, to-analyze, both; qualitative and quantitative-data. The-main-findings of the-study, revealed that, the-majority (60%) of the-respondents alleged, that plagiarism was-never-mentioned or explained, to-them, at-*any*-level; Overwhelming-majority, (90%) agreed that plagiarism is unfair to-the-original-author and to-the-colleagues; The-vast-majority, (90%) also-claimed that they *never* plagiarized, while 10% confessed that they-did-it one or two-times, in-the-past; majority (70%) also-agreed, that plagiarism is unfair to-oneself; and 60% agreed, it-is-unfair to-the-university. The-analysis of the-plagiarism, from the-faculty-perspective, was-balanced, by-the rigorous-coverage, of the-following-issues: Historical background; Plagiarism' extent; Quantification, for-plagiarism; Consequences of plagiarism: Retraction of publications, with selected global-illustrative-examples; Publishing-process: main-actors and their-roles, in-dealing with-plagiarism; Combating plagiarism, including detection and punishment; and Plagiarism, as just a-tiny-fraction of scientific-misconduct; among others. This-study also-provides few-recommendations, on how to-improve the-current-situation, in-the absence of official-institutional Plagiarism-Policy. The-findings, alongside-with the-theoretical coverage, will, expectantly, make a-contribution (in its-small-way), toward the-body of knowledge, on-the subject.

Keywords: retraction of publication, scientific, academic, faculty, quantification for plagiarism, questionnaire.

1. Introduction

1.1. Plagiarism concept

Plagiarism is a-complex-issue; hence, there is-*no* universally-accepted-definition. To-illustrate this, following are the-selected-examples, on how plagiarism' definition defer, among-universities and institutions of higher-learning: (1) *Stanford* sees plagiarism as the 'use, without giving reasonable and appropriate-credit to or acknowledging the-author or the-source, of another-person's original-work, whether such-work is made-up of: code, formulas, ideas, language, research, strategies, writing or other-form'(Begovic, 2014) (2) *Yale* views plagiarism as the '... use of another's work, words, or ideas, without attribution," which includes '... using a source's language, without quoting, using information from a-source, without attribution, and paraphrasing a-source, in a form, that stays too-close to-the-original' (Editage Insights, 2012); (3) *Princeton* perceives plagiarism as the 'deliberate' use of 'someone else's language, ideas, or other original (not common knowledge) material, without acknowledging its-source' (SIAM Journals, 2011); (4) *Oxford* College of Emory University characterizes plagiarism as the use of 'a writer's ideas or phraseology, without giving due-credit' (Katavić, 2006), and (5) *Wake Forest University* describes plagiarism, as a-human-rights issue, stating that, as a-result of plagiarism 'a person loses not material-possession, but something that characterized him or her, as an-individual. Plagiarism is a-serious-violation of another-person's rights, whether the-material-stolen is great or small; it-is not a-matter of degree or intent.' Regardless of the specifics, attribution (or lack-of-it), however, remains the-general-concern for all-the-above-definitions (Ebert, 2010).

Incidents of plagiarism are viewed along a-wide-range; with-some-incidents regarded, as more-serious, than others (Jones, 2011; Kwong *et al.,* 2010, Blum, 2009; Hudd *et al.,* 2009; Salmons, 2007). Plagiarism-range, according-to-the Committee on Publication Ethics (COPE), is defined as-follows: 'Plagiarism ranges from the unreferenced-use of others' published and unpublished-ideas, including research-grant-applications, to submission under 'new' authorship of a-complete-paper, sometimes in a-different-language. It applies to-print and electronic-versions'. Moreover, it includes abuse of the unique-methods and or results, obtained by-privileged-communications, such-as project-proposals or manuscripts, for-publication in-scientific-journals, master-thesis and doctoral-dissertations, among-others (CPE, 2012).

Plagiarism is one of the-most-common unethical-form, of scientific-fraud (Ferris, 2007; Mojon-Azzi & Mojon, 2004), resulted from both; subjective and objective-factors. *Subjective-causes* are attitudinal and individual: the-circumstances, ambitions, competitive-academic-drive, and simple-ignorance, of the-relevant-rules and conventions. *Objective-causes* include the-pressures, directed at-individuals, by society and family;

society's demand, for skilled and educated-workers and professionals; inconsistencies in defining proper-behavior; lack of rules, to-maintain and enforce it, and deficiencies in the-mechanisms, for detecting and dealing with infractions (UNESCO, 2003).

Donev (2015), on the other-hand, has described plagiarism as a-criminal-act, against the-scientist and against science, itself; he also-emphases that, as-such, it-is punishable. According to Bahadori *et al.* (2012), the-unprecedented-growth of IT, stiff-competition between-countries, rapid-growth of knowledge, unstoppable-multiplication of scientific-journals, lack of good-explication of plagiarism and different-understandings of it, lack of awareness, mismanagement of time, and low-ethical values, among-others, have all-contributed, to the-prevalence of plagiarism, in the-scientific-community. According to-Goodstein (2002), career-pressure and ease of fabrication, are the-primary-motivators, for scientists, to-commit-misconduct. Plagiarism, in-academic and professional-activity, has-become more-common, as the-demand for faculty-productivity has-grown and the-volume of publication has-increased.

Plagiarism is divided into four-categories (Maurer, 2006): (1) 'casual-plagiarism', due to-lack of awareness of plagiarism, or insufficient-understanding of referencing or citation; (2) 'unintentional- plagiarism', where, due-to the-wide-amount of knowledge, in-the-scientific-area, a-person may unknowingly-present ideas, similar to-those, of others; (3) 'intentional-plagiarism', where a-person, deliberately and knowingly, copies, part or all, of somebody else's work, without giving credit, to-them; and (4) 'self-plagiarism', which consists of reusing one's own-published-work, in a-different-form, without acknowledging it.

Self-plagiarism, is rather-common, for-example, in one-study, five out of nine-papers showed significant-usage of sentences, from papers previously-published, by the-same-author, on the-same-subject (Roig, 2005). Furthermore, according to Hayes & Introna (2005), self-plagiarism can-be-defined in three-following-ways: (1) publishing a-paper, which, basically, overlaps another-paper, without due-acknowledgement; (2) breaking a-large-paper into a few-smaller-papers and publishing them, separately, called 'salami-slicing'; and (3) republishing the-same-work, in a-different-journal(s).

1.1.1. Precise-quantification for plagiarism.

The other-important-issue to-be-aware-of, is how-much change, exactly, in-the-original-material, can-make for plagiarism (Park, 2003). To-be-pronounced 'plagiarism', it needs to-be a-rather-serious-deviation, from normally-accepted-behavior, of the-relevant-scientific-community, which is done-deliberately and *must*-be proved, with solid-evidence. However, the-seriousness of the-offense depends on-the-extent, of the-text, plagiarized.

According to World Association of Science and Communication (WASC), plagiarism is specifically-defined as: when six-consecutive-words are copied, seven to eleven-words are overlapping of thirty-letters (Masic, 2012; McCabe & Feghali, 2008). A more-liberal and more-lenient-definition of Sanjeev (2008), is that plagiarism on a-smaller-scale, or 'micro-plagiarism', means copying unchanged-sentences, of less-than 100-words, while 'big-plagiarism' involves copying unchanged-sentences, with more-than 100-words. Replication and publishing of whole-articles, a bigger-part of a-text or a-chapter, without adequate-attribution, is the-most-*severe*-form of plagiarism, considered as a 'theft' of intellectual-property, also called shameless, aggressive or blatant-plagiarism.

On the-other-hand, Croatian Medical Journal considers plagiarism, if more than 10% text similarity is noted, while other-journals consider 25% or 30%. How-much of plagiarism is acceptable is determined, by-the-editors, of the-journal. Manual-verification is mandatory, the-guidelines for which are available on COPE official-website. Plagiarism, in the-results and discussion-section of the-work, is *not* accepted, whatsoever. However, minor-amount, in-methodology, can-be accepted, with proper-citation and paraphrasing (Sanjeev, 2008). If there is an-instance of substantive-plagiarism (copying more than 25% of the-published source), the-redundant-manuscript should-be withdrawn, from the-publication-process, and actions taken, to-inform respective-institution(s). If plagiarism is surfaced, after the-publication, editors should-retract the-paper and inform the-readership, on-misconduct (Masic, 2012).

Another-perspective was-suggested by Prof. Wiser, Tulane University, as five-criteria, to-evaluate the-seriousness of plagiarism-allegations (Nathan, 2012): (1) What was the-extent of the-plagiarism?; (2) Was the-intent malicious?; (3) Has the-author previously-engaged, in-plagiarism?; (4) What is the-position and training of the-author?; and (5) Was the-source-material original or did the-plagiarism occur from-notes?

Furthermore, the border-line of self-plagiarism is difficult to set-up, because some-journal-editors consider self-plagiarism as a-milder-form, of scientific-dishonesty, and enable up-to 30% of the-text, in-the introduction to-be-taken, from a-previously-published-scientific-paper, by the-same-author (Baždarić, 2009). Most-often, editors retracting an-article, from the-journal, based on-the-final-decision of the competent-body, for scientific-integrity (Masic & Kujundzic, 2013).

1.2. Historical-background

In-ancient-times, the-idea of intellectual-property did *not* exist. Ideas were the-common-property, of the

educated-privileged-elite, who knew and, generally, trusted-each-other. This-system continued through the European-Middle-Ages, where education was in-Latin and in-Greek-language. Some-scholars were monks, who-used much of their-time copying-manuscripts. Most of the-religious-texts were-authorless and were unreservedly-copied and incorporated, into-later-works. Even the-word 'scholarship' meant demonstrating mastery of the-ancient-greats. These-behaviors tend to-change, during the-Renaissance, when originality became more-respected and individual-accomplishment was-recognized, in-many-more-fields that it-had been, previously. This-started, when painters began signing their-works. By the-mid 1600s, accusations, of plagiarism and stealing-ideas, were-common, in every-creative-field, including the-sciences (Wikipedia: Academic-misconduct).

In the 1st Century, the-use of the-Latin word '*plagiarius'* (literally *kidnapper*), to-denote stealing someone else's work, was-used, by the-Roman-poet Martial, who-complained that another-poet had 'kidnapped his-verses'. '*Plagiary'*, a-derivative of '*plagiarus'* was introduced into-English, in-1601, by dramatist Ben Jonson, to-describe someone-guilty of literary-theft (Katavić, 2008). The-derived-form *plagiarism* was introduced, into-English, around 1620 (Office of Research Integrity, 2010).

Thomas Mallon (2001), one of the-oldest-authors, on-plagiarism, notes that ancient and medieval Europe had many-authorized-genres, and good-writing, then, meant imitations of a-small-number of respected-authors. Only in 18th century, in-Europe, an-ideal of authorship, particular with the-Romantic movement, has-emerged; while in-the-previous-centuries, authors and artists, were-encouraged to 'copy the masters, as closely as possible' and avoid 'unnecessary-invention' (Editage Insights, 2012).

On the-other-hand, people, are not, generally, associate fraud and misconduct, in-connection with education, and academic and scientific-research. Actually, traditionally, educators and the-education-system, have-been highly-regarded, as major-transmitter of truth, honesty, and similar-positive-values, and consequently, are considered, as somehow 'above-it-all'. Nevertheless, 'from time to time, teachers, professors, and educational-administrators abuse the trust, placed in them, and researchers fabricate or 'massage' their-data, plagiarize and falsify their-reports' (Noah & Eckstein, 2001).

1.3. Plagiarism' extent

Presently, the-problem of plagiarism has grown, to-be-colossal and widespread, in-about all-the-spheres of human-activity, particularly in-science. Plagiarism is fairly-common, among-authors of papers, submitted for publication in-scientific-journals, chapters in-books, master-thesis and doctoral-dissertations (Bilić-Zulle, 2005). According to-the-editors of the-journal '*Nature*', the-incidence of self-plagiarism is ever-growing, possibly due-to the-allocation of funds and because the-progress in the-scientific and academic-career is based, largely, on the-number of published-scientific-papers (Bilić-Zulle, 2007).

The National Science Foundation (NSF) in 2013, declared, that they handle more than 100 cases, of suspected-plagiarism, in a-year. Regrettably, NSF is not an-isolated-body; there are other-academic institutions, as-well-as other-spheres of interest, which is often-revealed, to-the-public, only when scandals break-out. For-example, in-Germany, two-well-known-members of the-Cabinet had to-withdraw, from the office, in the-middle of accusation of alleged-plagiarism, in their-dissertations. Analogous-scandals stunned Canada, the-Philippines, Romania and Russia (Masic, 2014).

The-issue of scientific-misconduct, in the-USA, attained public-awareness in the-1980s, with the emergence of several-episodes of scientific-improprieties (Giles, 2004; Stewart & Feder, 1987). Out of the 3,475 research-institutions, 3% report to-the US Department of Health and Human Services' Office of Research Integrity, indicating some-form of scientific-misconduct (WiredMagazine.com). US, examining funded-research-projects, suggested that the-incidence of misconduct, maybe as-much-as 3 cases, per 100 scientists per-year, with plagiarism accounting for 36% of these-cases of misconduct (Titus *et al.,* 2008). According to the US Office of Research Integrity, on-average, 130-200 allegations of misconduct, per-year, are made, in-medical and bio-medical-research, and about one-third, have-been-confirmed (Decoo, 2002). Other-accusations of plagiarism and academic-misconduct involved well-known-authors, such-as respected-historians Goodwin and Ambrose, and a New York State University; and Classics Professor and a- Vice-Chancellor of Monash University, Australia (Anderson, 2002; Baty, 2002).

According to-Schulz (2008), 'A chemist in India has been found guilty of plagiarism and/or falsifying more than 70 research-papers, published in a wide-variety of Western-Scientific-journals, between 2004 and 2007'.

Moreover, Martin (2007) reported a-case, in-which an-author's 1993 article had plagiarized another-article, published in 1980. According to-Martin, 'The allegation was investigated, and it was agreed that it was a serious-case of plagiarism'. While investigating this-author, who-has-published over 100-articles, two-more-articles of his, were-found to-be-plagiarized. Moreover, during the-process of investigation, they found the-plagiarist's article, itself, was plagiarized!

Plagiarism is indeed, a global-phenomenon, with absolutely-no-professional, institutional, regional or

international-boundaries. The-consequences of scientific-misconduct can-be damaging, for-both; perpetrators (Redman & Berz, 2010; Xie, 2008), and any-individuals, who-exposes-it (Research Triangle Institute, 1995). Fanelli &Tregenza (2009) pointed-out that, it-is relatively-easy, to-cheat, although difficult, to know-exactly, how-many-scientists, plagiarize and fabricate-data.

To-tackle the-problem of plagiarism, COPE recommended cooperation with research-institutions and retraction, of untrustworthy-material (COPE, 2016).

1.4. Consequences of plagiarism: Retraction of publications

One of the-possible and direct-consequences of plagiarism, is a-retraction of a-plagiarized-paper. *Retraction* is 'a mechanism for correcting the literature and alerting readers to publications, that contain such seriously-flawed or erroneous-data, that their-findings and conclusions cannot be relied upon' (COPE, 2009). Basically, a-work can-be retracted, if it-has-been-considered to-be-based, on serious-errors, plagiarism or fraud; the-two last-ones named scientific-misconduct (Kleinert, 2009). Unreliable information may-result, from-truthful-mistake, or from-research-misconduct. Retraction is also-used, in-case of redundant-publication (i.e. when writer presents the-similar-data, in-several-publications), plagiarism, and failure to-disclose a-major-competing-interest, likely to-influence interpretations or recommendations. The main-purpose of retractions, however, is to-correct the-writing and to-ensure its-integrity, rather than, to-punish-authors (COPE, 2009).

Retractions, in-academic-publishing, have reached an-enormous-apex, increasing tenfold, in the-last-three decades, and the-biggest-reason, for-this, is plagiarism and duplications (self-plagiarism) (Masic, 2014). The-numbers of retracted-papers vary, from-database-to-database; for-example ScienceDirect database shows over 700 papers have-been-retracted, from scientific-journals, mostly from medical journals, between December, 1985 and November, 2012. Databases of Medline and PubMed, of the-National Library of Medicine, in-the-USA, identified more-than 670 published-papers have been declared and designated, as-plagiarized, from 1990 to 2009 (Pupovac, 2008). On the-other-hand, a-survey on 42 largest bibliographic-databases, for major-scholarly-fields and publisher-websites, identified 4,449 scholarly publications retracted from 1928–2011. The-number of articles retracted, per-year, increased, by a-factor of 19.06, from 2001 to 2010, while excluding repeat-offenders and adjusting, for-growth of the published-literature, decreases it, to-a-factor of 11.36. The-USA and EU-27 clearly accounted for most-retractions, prior to 2005. Thereafter, the-numbers, from the-Asian-countries, particularly China, began to-increase-dramatically. Data were based on Web of Science Categories for 1,522 of the 1,796 journals, with at-least one-retraction. For-engineering, in-particular, 20% of articles were retracted, among 2010 Web of Science records, which also represents 12% of the *total*-number of articles, retracted from Journals (Ferric *et al.,* 2012).

The-following-section will-exemplify, the-consequences of plagiarism, by giving few-selected most-illustrative-examples, and, hence, demonstrates just 'a tip of the-iceberg' of the-menace.

1.4. 1. Selected-illustrative-examples

The-perception of scientists, as objective-seekers of truth, is periodically-jeopardized, by the-discovery of a major-scientific-Fraud (Saunders & Savulescu, 2008). According to Massey&Webster (1997), in the-past, faculty spoke-little of plagiarism; it was just *not* something that the-vast-majority of scholarly-researchers would-consider-doing. But, the-pressure to-publish, among other-factors, has pushed some-academics, to plagiarize words and ideas, from-others. Even some-well-respected-scholars, have-been-found, to-have liberally 'borrowed' from others' work. Moreover, 'many of the allegations arise in the well-funded and highly competitive-science-disciplines'.

It would-be-logical, to-start this-sub-topic, with so-called 'farther' of scientific-misconduct, Gregor Mendel; his-published-work ignited, more-than-a-century of controversy, about the-validity of his-data; interested-readers can-refer, for more-details to Fairbanks & Rytting (2001). Next-section will-present some examples, country-wise:

Singapore: A-professor of immunology, Menendez, Alirio was-found-guilty, of misconduct, on an 'unprecedented'-scale, by a-committee, at-the National University of Singapore (NUS), by having fabricated, falsified or plagiarized, at-least 21-research-papers, published in-International-academic-journals. Menendez originally worked at NUS, but moved, to-the UK, in-2007, where he first worked at the-University of Glasgow, and next, at-the-University of Liverpool (Yung & Sharma, 2013).

Israel: Dr. Spivak, Alexander a-well-published-author and a tenured-senior-lecturer, at the Holon Institute of Technology (HIT), plagiarized a-paper, written, in-2001, by his-former-postdoctoral-adviser and two-other-researchers, from Tel-Aviv-University (Nadler *et al.,* 2014). Two-chapters of their-original-paper were copied-and-pasted and published, as two-separate-articles, in the-International Journal of Pure and Applied Mathematics (*IJPAM*), seven-years-later. After the-plagiarism was-discovered, in-2014, both-papers: Spivak (2008a) and Spivak (2008b) were retracted, by the *IJPAM* Managing-Editor. The HIT administration's handling of the-plagiarism-affair, received harsh-criticism, in-Israel (Heruti-Sover, 2014), and abroad (Ferguson, *nd.*), after the-plagiarist was given a-sabbatical-leave, as a-form of 'punishment'. In-May 2015, yet-another-paper, by

Spivak (2014), was retracted (Katsnelson, *nd*.), from the NumAn-2014 Conference Proceedings.

USA: Ohio-University had a-plagiarism-crisis, in-the-2000s, when severe-plagiarism, in Masters Theses, was-discovered. This resulted in the-firing of two-tenured-professors, Dr. Gunasekara and Dr. Mehta, of the-Mechanical-Engineering-Department, and also-resulted, in multiple-institutional-changes (Markta, 2011; Tomsho, 2006).

More-recently, BellLabs has exposed the-work, of one of their-nano-scientists, Jan Hendrik Schön, as largely-fabricated (see Kennedy, 2002). Schön was widely-regarded as-brilliant; publishing, on-average, one-paper every-8-days, for more-than two-years, 15 of those, in *Science* and *Nature*. Evidently, many-reviewers liked his-work. While he-had some-supporters, there-was also a-lot of gossip, about the validity of his-findings. In-2001, his-co-workers, finally-investigated, and found-out that 16 of 25 papers, contained fraudulent-data, and another-six, were-suspicious. BellLabs fired Schön, immediately, the-U.S.A. revoked his-work-permit, and the-University of Konstanz invalidated the-PhD, that they-awarded-him, in 1997 (Anonymous, 2004).

Romania: (1) Marcu, Dănuţ, a-Romanian-mathematician and a-computer-scientist, was banned, from several-journals, due to-plagiarism. He had submitted a-manuscript, which was more-or-less 'word for word' the-same, as a-paper, written by-another-author; (2) Ioan Mang, another-computer-scientist, at the University of Oradea, plagiarized a-paper, by-cryptographer Eli Biham, Dean of the-Computer-Science Department of Technion, Haifa, Israel. He-was accused, of extensive-plagiarism, in at-least-eight of his-academic-papers (Abbott, 2012; Pappas, 2012).

Saudi Arabia: Ali Attia, Hazem, an-Egyptian-professor, in-the-Department of Mathematics, of Al-Qasseem University, had a 2007 paper, retracted, from-the *Mathematical methods in the applied sciences journal*, for being a-near-identical-copy, of an-earlier-paper, published in-the *International Journal of Thermal Science* (Ali-Attia, 2007).

Spain: (1) Two-papers, by Juan Carlos Mejuto and Gonzalo Astray (chemical-physics), in *Journal of Chemical and Engineering Data,* were withdrawn, by the-editor (Astray, 2010), because of plagiarism; (2) The-same happened, with José Román-Gómez, University of Córdoba (Spain), for appropriation of gel-images, in-claimed-work, on signaling and DNA-methylation, in-leukemia, in Roman-Gomez (2004).

China and India, collectively, accounted for more-cases of plagiarism, than the-U.S.A.(Ferric *et al.,* 2012). Thirty-eight research-groups, with-greater, or equal to-five-retractions, accounted for 43.9% (n = 390) of retractions, for fraud or suspected-fraud (Ferric *et al.,* 2012).

From the-above-examples, it-is evident, and supported by Parmley (2000), that: 'It appears that plagiarism is far-more-common, than many of us suspect. We probably catch only the tip of the iceberg'. Overall, many-cases of falsified-research are due-to: conflict of interest, self-interest, and bias. Researchers are motivated, by the-prestige, which comes from being-first, with a-scientific-discovery, or the-financial rewards, of marketing a new-drug. For-example, many-reports of fraud, in-scientific-research (particularly medical and bio-medical) are towards satisfying the-interests, of their-sponsors (UNESCO, 2003).

1.5. Research purpose

According to *Comunicar Journal* (2016), the-following-practices, such-as: misleading, misrepresenting, defrauding, lying, betrayal, concealing, and confusing, among-others, are incompatible-with the transmission of scientific-knowledge, and academic-activities. The-reality, however, is-very-different: there is abundant-evidence showing, that dishonest and fraudulent-activities are still-present, in both-processes. The-issue of academic-integrity, affects all-areas of scientific-knowledge, and all-levels of education systems: their-study, description, comprehension, and analysis will-enable, to-understand-more and, hence, making an-informed-proposals, for-solving the-problem of dishonesty, in-the-scientific and academic- communication.

Honig & Bedi (2012), pointed-out, that there-are increased-incidences of plagiarism, by-scholars, are-due-to ever-increasing-pressure, for them to-publish, so-as to-climb the-academic-ladder; academic promotion relies, largely, on-the-number of publications and citations, of scientific-papers. Moreover, in addition to-easy-access, to-the-massive-amount, of downloadable-documents, thousands of new-publishers and open-access, online or e-Journals, have-emerged, in last-few-years, as a-money-spinning big-business, and an-easier-way, for desperate-authors, to-publish.

A-considerable-number of empirical-studies, on-plagiarism and dishonesty, among-academicians and researchers, was reported (see Honig &Bedi, 2012; Lacetera & Zirulia, 2011; Clarke, 2006; Enders & Hoover, 2006; Gill, 2006; Collberg & Kobourov, 2005). However, according to-UNESCO (2003), research-coverage on-academic-dishonesty, is limited and uneven, especially, in-developing-countries, like Kenya.

Cases of plagiarism have-risen, in-the-last-years, due to-improvement in-communication- infrastructure, and internet-access, and as Auer & Krupar (2001), rightfully-refer to a-new-revolution in plagiarism, to as '*mouse-click*'-plagiarism. Moreover, in-the-local-context, it-occasioned-by, the-arrival of the-first-fiber-optic, in-Kenya, in-the-year 2009. According to-Muchuku (2011), academic-plagiarism, in Kenyan-Universities had increased, mainly-due-to: (1) Ignorance, negligence and lack of scholarly-writing-skills; (2) Lack and

inadequacy of Policy, on-plagiarism and academic-honesty; (3) The-spread of computers and the-Internet; (4) Reluctance, to-punish plagiarism; (5) Laziness, and lack of proficiency, in-English; (6) Social-benefits, that come-with-plagiarism; (7) Limited-time or poor-time-management; (8) Temptation and opportunity; and (9) Lack of awareness on the-consequences of plagiarism.

A-recent-study by Starovoytova & Namango (2016a): "Viewpoint of Undergraduate Engineering Students on Plagiarism" identified, overall and widespread-deficiency, in students' understanding of plagiarism; also more-than-half, of the-students, in-the-subject-sample, were *not* adequately-informed about plagiarism, in-academic-writing; 76% of the-respondents agreed, that those who say, they-have-never plagiarized, are dishonest; and also that everyone-else, around are plagiarizing (e.g., students, researchers, and academic-staff); 48% of the-respondents agreed, that they keep-on-plagiarizing, because they have *not* been-caught-yet, while 33% stated, that they are tempted-to-plagiarize because, even if caught, the punishment (if any) will-be-light (the-reward outweighs the-risk).

Consequently, to-get a-better-picture, at-the-SOE, research on-student-perceptions was complemented, by research on-faculty-perceptions, in the-subsequent-study, by Starovoytova & Namango (2016b): "Awareness of Engineering-Faculty on Plagiarism", which revealed a-worrying-lack of understanding, among-engineering-faculty, on-basic-elements of scientific-writing, including plagiarism. The-study-also exposed complete-lack of legal-framework, to-deal with-plagiarism, its-prevention, and punishment, at-the-institutional-level.

The-above-two-studies, have established apparent, widespread-deficiency, in-both; students' and faculty' understanding of plagiarism. This-study, therefore, focused on-providing much-closer and deeper-look at-plagiarism; as-such, the-following-issues (*not* covered, in-the-previous-two-papers) will be highlighted, such-as: Precise-quantification, for plagiarism; Consequences of plagiarism: Retraction of publications; Publishing-process: main-actors and their-roles, in-dealing with-plagiarism; and Plagiarism as a mere-fraction of academic and scientific-misconduct, among-others. This-coverage, will-be balanced, by the-analysis of perceptions, on-plagiarism, from the-faculty-perspective.

2. Materials and Methods.
2.1. Model and steps applied
This-study used a-document-analysis and a-questioner, as its-main-research-instruments.

Flint *et al.* (2006), identified four-models, that faculty conceptualized, when discussing plagiarism. *Model A-* positioned cheating and plagiarism, as being identical; *Model B-* identified cheating, as being completely-different, from plagiarism; *Model C-* incorporated some-overlap, but with differences, in-the-thought-process, between-the-two. *Model D-* treated plagiarism, as a-subset, of the-larger-category, of cheating. This-study followed Model D, consequently, most of the-literature reviewed, either deals with plagiarism, individually, or it-includes plagiarism, as a-category, of cheating.

The-research implemented an-explanatory-approach, of descriptive-survey research-design. The study followed 3 sequential-steps, which-shown, in-self-explanatory Figure 1, according to Starovoytova & Namango (2016 c).
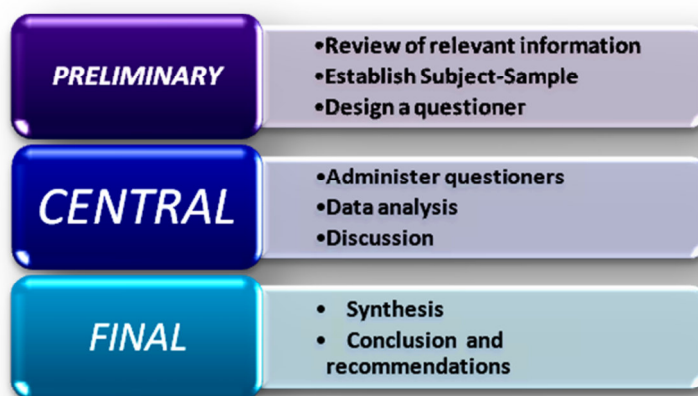

Figure 2: Sequential-parts of the study (Starovoytova & Namango, 2016 c).

2.2 Sample-size and rationale for its selection
15 senior-academic-members of staff (N=15), from the-SOE, Moi University, were invited, to-complete a questionnaire (developed for the-purpose of this-study). The-choice of senior-academic-staff was-based on the-assumption, that all of them, should-have-been publishing, at-their-area, of expertise, and therefore, are

considered, to-be knowledgeable-enough, on the-subject-matter--plagiarism. The-other-criterion included seeking-out both; faculty, who had-gone-through their-graduate-studies, in-Kenya, and these, who-had studied, elsewhere. This was important, to-accommodate wide-spectrum of participants. The-categories were analyzed, within the-single-unit of a-case-study, as all of the-participants are-faculty, at a-single-school, of a single-university, and therefore, the-common-culture provided a-solid-basis, for-discussion and comparison.

On-the-other-hand, Kezar & Lester (2009) argue, that faculty exists, within a-multiplicity of sub-cultures. They live both; in-their-academic-disciplines, and within-institutional-cultures, and values between these-subcultures, can vary. To this-end, the-sample was-drawn from *all* the 5-departments, of the SOE; moreover, no-preference, to-any of the 42 Kenyan-tribes was-given, to-obtain wide-ranging sub-cultural-views.

Furthermore, interested-readers, could-refer to Starovoytova *et al*. (2015), to-find informative synopsis on-Kenya, and its-educational-system. In-addition, information of the-university and the-school, where the-study was conducted, can-be accessed *via* Starovoytova & Cherotich (2016).

2.3. Questionnaire and its administration

A-projective-technique was-used, in this-study, by asking questionnaire-respondents questions, about plagiarism, at-the-SOE. The-subject-sensitivity, relative-position of questions, the-minimization of excess-length, the-visual-impact and ease of comprehension and completion, were all-considered, when designing the-questionnaire, according to-Starovoytova & Namango (2016 c).

The-questioner was pre-tested, to-ensure its-validity and reliability. A-trial-survey (pre-testing), was conducted, according to ISO 20252:2006 (E) Market, Opinion and Social-Research Standard, by administering an-initial-version of the-questionnaire, to one-faculty-member, selected at-random, from the outside of the-subject-sample. Subsequent-discussions, with this-member, resulted in-the-fine-tuning of wording and 'polishing' of the-final-version of the-questionnaire, used for the-survey.

The-questionnaires were administered by 'drop & pick'-method. Consenting-members were-given an-appropriate-amount of time, to-complete the-questionnaire, and were informed, on-the-confidentiality, of the-process.

The-answers, to-the-open-ended-questions, provided by-the-faculty, were analyzed, by using a content-analysis-technique, for-qualitative-data: the-data were unitized, coded, and grouped, into-themes, according to-Denzin & Lincoln (2000) and Lincoln& Guba (1985). To-ensure-credibility, a-principle of qualitative-inquiry, for ascertaining, that the-analysis and findings, are legitimate, was-used, according to Lincoln& Guba (1985).

Cronbach's alpha was-chosen, as the-most-common-method, of estimating reliability, of an-instrument (Hardy & Bryman, 2009). The-Statistical-Package for Social-Sciences (SPSS-17, version 22)-computer software-program, was used, to-compute the-Cronbach's alpha coefficient. Descriptive-statistics was used to-analyze both; qualitative and quantitative-data.

3. Results, Analysis of the-results, and Discussion.

3.1. Results

3.1.1. Validation of the-instrument

Upon validation-process, it was established, that the-instrument had sufficient-information; the-length of the-entire-instrument was-found suitable, and the-content was logically-organized. Overall, the-instrument was satisfactory, with very-minor-editing.

The-final-version of the-self-report-questionnaire consisted of 2 main-parts: demographics and a research-inquiry, consisting of 9 questions.

Questionnaire-data were coded, entered into SPSS and checked, for-errors. Data were analyzed, list-wise, in-SPSS, so-that missing-values were disregarded. Cronbach's-alpha-test, of internal-consistency, was performed, for perceptions and self-reports on-plagiarism, and demonstrated relatively-high inter-item-consistency (Cronbach's *a=0.803*).

3.1.2. Questioner' responses

Out of the-total-number of questioners, administered (N=15), 10 were collected-back within a specified-time-period, giving a response-rate (RR) of 67%.

3.1.2.1. Results part 1: Demographic-Characteristics.

The-population, of this-study, includes a-purposive-sampling of 15-faculty, from-various-academic disciplines. The-sample-demographics were the-same, as in the-previous-study, by Starovoytova & Namango (2016b), in-particular: 95% of the-respondents were male, while 5% were female; confirming that SOE, as any-other-engineering-school is male-dominated. Out of the 5 Engineering-departments, of the-SOE, responses were received, from only 4 departments: (1) MIT-Manufacturing, Industrial &Textile Engineering contributed 30%, of the-respondents; (2) ECE-Electrical &Communication Engineering, 30%; and 20% for-each; of MPE (Mechanical & Production Engineering) and CPE (Chemical& Process Engineering) departments. The highest-share (40%) of the-participants was Associate-Professors; Senior-lecturers and Lecturers contributed-equally, at

30%, each; however, *no*-response was received, from full-Professors. The-vast-majority, of the-faculty, (40%) have-been-teaching, at-university-level, for 15 to 20 years; followed by 30% of these, taught for 5 to 10 years; equal-share (10%) were teaching from 3 to 5 years, and from 10 to 15 years; and the smallest-representation (10%) taught for-over 20 years.

3.1.2.2. Results part 2: Research-questions.

Here, the-questions are presented, the-same-way, they-appear, in-the-questioner.

Q1. Where did you study for your Masters and PhD?

The vast-majority (70%) indicated that they studied '*Only* outside Kenya', while the-remaining 30% said that they studied, in-Kenya and also outside.

Q2. How many-years (in total) you have spent for your graduate-education?

The-maximum was 12, the-minimum 5, while the-mean was 8.3 years.

Q3. Before you came to the University, was plagiarism ever mentioned or explained to you at any-level?

Majority, (60%) of the-respondents said, that plagiarism was *never* mentioned, or explained, to-them, at any-level; while the-remaining (40%) confirmed that it was.

Q4. How often did any of your teachers/supervisors in the past academic-experiences (while a student at Masters or PhD-level) ever tell you that you have plagiarized in your own-written-work?

The vast-majority, (90%) claimed that they *never* plagiarized, while 10% confessed that they did it 1 or 2 times, in   the-past.

Q5. In your-own-opinion, to what extent do you feel, you yourself copied the words or ideas of other writers, without indicating the source in your writing-assignments/reports/thesis?

Similarity to Question 4, the vast-majority, (90%) claimed that they never did it, while 10% confessed that they did it a-little-bit, in-the-past.

The-following-section, of the-questioner, asked the-faculty, to-provide their-opinion, by indicating 'Agree', 'Disagree' or 'No opinion' to-the-following-questions:

Q6. When one plagiarizes, he/she is unfair to himself/herself because he/she is not being himself/herself. Rather, he/she is pretending to be better than he/she is.

Majority (70%) agreed with the-statement, while 30% disagreed.

Q7. When one plagiarizes, he/she is unfair to the university because it runs counter to the university-educational goals which can never be achieved if one just copy information.

Here, majority, (60%) disagreed with the-statement, while remaining 40% agreed.

Q8. When one plagiarizes, he/she is unfair to the writer of the original-passage, because he/she is taking the credit that the writer deserves for the words and ideas.

Overwhelming-majority (90%) agreed, while 10% disagreed.

Q9. When one plagiarizes, he/she is unfair to colleagues as everybody is expressing themselves in his/her own language/style, whereas by plagiarizing sometimes one may get a better-manuscript.

The-answer, to this-question, was identical, to-the-answers, to-Question 8.

3.2. Analysis of the responses.

The-study established that, faculty did their-post-graduate-studies for about 8.3 years, on-average. Vast-majority, (70%) of the-SOE' faculty (under-consideration) studied *only* abroad, while remaining-part studied in-both; Kenya, and outside Kenya. This-statistics show that Kenyan Graduate Education-sector, is yet, to-attain a-satisfactory-compatible-level with such-countries, as UK, USA, Germany, Israel, etc., where many of the-faculty have-studied, as for numerous-areas of specialization, post-graduate programs, are yet to-be-established, in-Kenya. In-addition, it can-be-concluded, that Kenya spends substantial-funds, for academic-training, as-according to-governing-policy, faculty, on-study-leave, receives 80% of their-salary, regardless of the-number of years, a-study-takes.

Vis-à-vis plagiarism: Majority, (60%) of the-respondents said, that plagiarism was *never* mentioned, or explained to-them, at *any*-level; Overwhelming-majority (90%) agreed that plagiarism is unfair, to-the-original-author, and to-the-colleagues; The vast-majority, (90%) also-claimed that they *never* plagiarized, while 10% confessed, that they did-it one or 2 times, in-the-past; and majority, (70%) agreed that plagiarism is-unfair to-oneself; while 60% agreed, it-is-unfair to-the-university.

The-country spent substantial-amount of money for post-graduate-training, for every-member, of the-faculty, therefore, the-absolute-minimum, that the-faculty can-do, is to-produce ethical-publications, trying their-very-best, to-avoid retraction, and its-consequences, which-can-lead to-damage or loss, of the-reputation, for a-plagiarist, or even, worse, removal from the-post, meaning that all-the-money and efforts, spend by the-country, went in-vain.

To-this-end, the-following-section, on-how to-combat plagiarism, would be valuable.

3.3. Discussion

3.3.1. Combating plagiarism

Plagiarism, as any-other-type of cheating, ought to-be-controlled, and, preferably, not by a-single-approach, but via 3D-approach, incorporating: Prevention, Detection and Punishment. These, will-be the-focus, of the-subsequent-sections.

3.3.1.1. Prevention

For-potential-authors, there-are numerous-means, to-avoid, and therefore, prevent plagiarism, from happening, such-as: (1) Paraphrasing; (2) Quoting, if more-than six-consecutive-words are copied; (3) Indenting, if more-than several-consecutive-sentences are copied; (4) Citing own-previously published-material; and (5) Properly-referencing.

Plagiarism is, generally, a-rather-debatable-matter, and a-number of organizations provided guidance, to-authors and researchers; guidance is also-available, for journal-editors, dealing-with-cases, of possible-misconduct. Institutions also-publish their-own-guidelines and advice, to-researchers. For-example: the-University of Alaska Fairbanks, the-Office of Research and Integrity-Research-Ethics documentation includes sections on publication, peer-review, redundant-publication and plagiarism (http://www.uaf.edu/ori/responsible-conduct/peer-review/).

Rules and policies, however, are no-more-than, guiding-documents, and it-is, largely, up-to an-individual, either to-follow them, or *not*. On the-other-hand, the-occurrence of misconduct, in-itself, is apparently, not the *main*-problem; the-lack of prompt-reaction, to-it, is. In-the-expression of Dunne *et al.* (2008), 'neutrality is political too', he pointed-out, that inaction, is a-link, between silence and a-complete- lack of response.

On the-other-hand, some-academics believe, that colleagues should-always-report, if they happen to suspect or came-across a-scientific-misconduct (Koocher & Speigel, 2010). The-issue, however, complicated, as many-academicians afraid of vengeance, and therefore, generally, avoid reporting.

Dr. Steinschneider, for-instance, published a-pediatrics-paper, in 1972, claiming an-association between infant-sleep-apnea (ISA), which Dr. Steinschneider said he-had-observed and recorded, in his-laboratory, and the-sudden-infant-death-syndrome (SIDS). In-1994, when Waneta Hoyt, the-mother of the patients, in the-paper, was arrested, indicted and convicted on 5 counts of second-degree-murder, for the- smothering-deaths, of her-five-children (Talan & Firstman, 1997), the-truth, on-scientific-misconduct came-out, and, as a-result, tens of millions of research-dollars were-lost, reputation of the-scientist was damaged, and academic and scientific-community was-shocked, with disbelieve.

Personnel, exposing such and similar-cases, usually called 'whistleblowers', can find themselves, as victims of retaliation, by a-number of different-means (Lock, 1995). Dealing with academic-misconduct, in a world, grossly-manifested by widespread-misconduct, in-absolutely-all-sectors of life, for-some, perceived as 'complete-waste of time and energy', bringing associations with the King Canute, in his-efforts 'trying to stop the tide'. However, this-view is rather-skeptical.

To-assist researches, faced with a-dilemma 'report or not report', a 'User-friendly Guide', alongside with the-establishment of a-confidential-organizational-structure, in their-institution, may help people, who are undecided about what-to-do, or afraid of bad-consequences, for their-speaking-up (Rowe, 2004). In addition, several-writers, also-provide summaries of practical, but principled-recommendations, for the 'whistle-blower', for protecting the-accused, and for-institutional-action (Decoo, 2000; Cizek 1999; Whitley, 1998). A-timely and significant-model, for-such an-activity, is the-work of the-non-governmental-agency, Transparency International, which suggests possible-ways, of studying and exposing-academic-scam, on a-world-wide-scale.

By bringing-together, site-by-site, two-famous-quotes, one, is-by Martin Luther King: 'Our-lives begin to end, the day we become silent, about things that matter' and second-one, by Albert Einstein:' Many-people say, that it is the intellect, which makes a great-scientist. They are wrong: it is character!' the-authors, would-like to-encourage faculty *not* to-disregard, cover-up, or deny the-menace, but boldly take a-stand of 'zero-tolerance', when faced, with suspicion of or the-plagiarism-act, itself.

3.3.2. Detection

With the-global-expansion of the-internet, numerous-tools are, now, available and easily-accessible, to-detect plagiarism. Maxymuck (2006), for-example, registers websites of eight-universities, guiding faculty, on how-to-detect plagiarism; and websites of four-universities, helping students and faculty, to-learn, how to avoid plagiarism. He-also lists the-websites, of eleven-universities, which-provide online-tutorials, to-test one' knowledge, of plagiarism.

There-are 3-main-approaches, in-detection of plagiarism: (1) The most-common-approach is by comparing the-document, against a-number of other-documents, on a 'word by word'-basis; (2) The-second-approach is by-taking a-characteristic-paragraph and just doing a-search, with a good-search-engine, like Google; and (3) The-third-approach is by-style-analysis, which is usually called '*stylometry*'.

Academic-plagiarism is more-easily detected by the-software, such-as TurnItIn and SafeAssign, while

more-technical and complex, scientific-plagiarism--with CrossCheck of iThenticate, and eTBlast- software. Any-such-software consists of algorithms, to-detect-similarities, with associated-databases. Publishers (editors) are-also regularly-using plagiarism-detection-software, to-verify the-originality of papers, submitted, to-their-journals. Major-publishers are-also members of CrossCheck, which uses the iThenticate-software, to-scan-papers, for plagiarism (http://www.crossref.ithenticate.com/). Documents are compared against a-database (http://www.research.ithenticate.com/index.html), containing web-pages, as well-as published-material, including journals and books (Wager, 2014).

In-biomedical-literature, for-example, Déjà vu, is commonly-used, which is an-OA-database (Errami *et al.,* 2007), developed, in-2006, and based on text-data-mining-algorithm eTBLAST, containing several-thousand instances of duplicate-publication. Studies on this-database have-been published in *Nature, Science* and other-reputable-journals (Long *et al.,* 2009; Errami & Garner, 2008).

Software, to-detect plagiarism, was-also-applied to-about 75,000 abstracts, in Medline (White, 2008), where in a-majority of the-cases-detected, the-software detected > 85% correspondence in the-words, in-papers, written by different-authors, suggesting that where plagiarism was used, it was done *blatantly*, with authors copying 'word-for-word' whole-sections, of the-previously-published-material.

In-addition, Retraction Watch (http://www.retractionwatch.com/) is a-blog, which documents plagiarism, fabrication and retractions, in the-scientific-community. Another-example is Inspec-database, which covers a-wide-range of engineering-journals, but does *not* index retraction-notices or retroactively-mark retracted-article-records, in any-perceptible-way. There-are many-more anti-plagiarism soft-wares are now offered; however, Kohler& Weber-Wulff, carried-out a-study, in-2010, on 47 systems of direct-plagiarism-detection, currently-available, and concluded that only 5 of them were, to-some-extent, useful (Sheard & Dick, 2012). Anti-plagiarism soft-wares can-detect only 'word-to-word' plagiarism; detection of data-manipulation, change in-references, adoption of ideas of others, etc. are sometimes-difficult, to-spot (Rao, 2008). Besides, these-services can-be used *only* for the English language (Austin & Brown, 1999). The-next-section, thus, will-be limited to-one of the most-popular anti-plagiarism-tools.

3.3.2.1. TurnItIn

TurnItIn cloud-based-service Turnitin® (iParadigms, Oakland, CA, U.S.A.) claims to-be-one of the most-distributed and most-reliable, in the-world, as it-is-used, by more-than 10,000-institutions, in 126-countries. *TurnItIn* allows a-variety of file-formats, mainly common-word-processors, these include: (1) Microsoft Word™ (doc, docx), (2) Corel WordPerfect® (wp, wpd, wri, doc), (3) HTML (htm, html), (4) Adobe PostScript®, (5) Text-file (txt), (6) Rich-Text-Format (rtf), and (7) Portable-Document-Format (pdf). Maximum-size allowed, for-submission, is 20MB. Besides, this-software is soundly-tested, widely available, economically-affordable, and rather-easy, to-use (http://www.turnitin.com).

When document is submitted, it-is originality checked against 24+ billion web-pages, 300+ million papers, and leading-library-databases and publications, across-the-world. *TurnItIn* allows the-user, to-engage in a-structured and anonymous-peer-review system, fostering a-culture of cooperation and support. Table 1 shows the-general-range of text-overlap-percentage, provided by TurnItIn'-report.

Table 1: TurnItIn report-indicators

Color	Color-code	Overlap/Matching-text, %
Blue		0
Green		1-24
Yellow		25-49
Orange		50-74
Red		75-100

However, according to-Steen (2011), the-ranges, indicated in-the-table, were determined to-be an-unreasonable-standard, due-to a-common-language, typical in-academic-papers, conventional-phrases, formal-nouns, and other-sentence-structures, restricted to-English-language. In-the-same-spirit, Blackboard (2007), also proposed a-more-liberal-range, with less than 15% being considered as-legitimate-research; 15% to 40%, is in-need of further-review, and those over 40% - most-likely, to-contain-plagiarism.

It-is-important to-note, however, that these-percentages show the-similarity of text and *not* a measure to-plagiarism; hence, further-careful-investigations and, sometimes, specialist-interpretation, are required, to-ascertain, if plagiarism is, indeed, occurred, and if so, to-what-extent.

In-Kenya, several-universities, for-example, Africa Nazarene University, have partnered with CloudHop, a-subsidiary of the-Copy. Ltd., to-launch the-anti-plagiarism-software, known-as TurnItIn, but it-is-yet, to-come, to-the-MU.

3.3.1.3. Punishment

Punishment, is a-necessary-instrument, to-deal with *any*-misconduct. Punishment-type can be: legal, institutional and individual. There is, however a-predicament: who, on-what-basis (criteria, standards, rules), when and how, should-declare-someone a-plagiarist. Other-questions arise, such-as: which institutions, or which-scientific-body,

or committee, at the-national or international-level, when plagiarism is proven, can-sanction someone, and what-are the-sanctions (Wager, 2014).

Historically, first-attempts (in-1992), to-deal with scientific-misconduct, were-made, by-launching the-Office of Research-Integrity (ORI), in-the-U.S.A.; with the-main-objectives, such-as: (1) promotion of scientific-integrity; (2) development of guidelines for scientific-research; and (3) investigation of allegations of misconduct, particularly, in-bio-medicine. Based on the-U.S.A.-model, many-national-bodies, for-ethics, in-science, were established, globally. As a-result, science-editors became familiar, with multiple-cases, of scientific-dishonesty (Masic, 2012).

Another-major-step-forward was the-establishment of the-UK-based Committee on Publication Ethics (COPE; 1997). COPE introduced scientific-principles of fairness, and developed a-set of flowcharts, specifically dealing with-misconduct.

Yet, there is *no*-general-regulation, to-control scientific-research, and intellectual-honesty, of researchers, which would-be-applicable, in-absolutely-all-situations, and in all-research-institutions (Masic, 2012). In-most of the-countries, committing research-misconduct, including plagiarism, even on a large-scale, is not a-legal or criminal-offense; however in some-countries, like U.S.A. and few-others, the- law, governing the-plagiarism, is in-place, and is fully-operational.

Another-example of legal-punishment is that, under the-Criminal-Law of the-Republic Macedonia, Article 157, plagiarism is a-crime, which is prosecuted, by financial-penalties and imprisonment (Ministry of Justice of Republic of Macedonia, 1996).

On the-other-hand, plagiarism, in-Kenya, is not *only* evident, in-the-academic-world, but can-also be-traced, in other-areas, like journalism, art and music-industry. According to-the Kenya-Copyrights-Act (CAP 130), reproduction of musical, artistic-work, audio-works and broadcasting, is illegal. The first ever, and so-far, the-only, scientific-plagiarism-suit, in a-Kenyan-court, was-filed, in-2010, against Mary Ogola of the-University of Nairobi, who had allegedly-plagiarized-work, on her-Master's-thesis. The-applicant, Anne Kukali, wanted the-court, to-nullify Ms Ogola's degree, on-grounds of plagiarism. It was a-winning-case, as the-comparative-analysis of both-documents, left the-court with no-doubt that, the-applicant's intellectual rights had-been-violated, by the-respondent (Civil Suit 94, 2010).

On an-institutional and personal-level, for-example, the-Office of Research Integrity, at VirginiaTech University, U.S.A. emphasized, in-compliance, with federal-regulations, on-research misconduct, that (VirginiaTech, 2011):

> The consequences of research-misconduct are variable and may include: Withdrawal or correction of all pending and published-papers and abstracts, affected by the misconduct, restitution of funds to the granting agency, and monitoring of grant applications or ineligibility to apply for federal grants/contracts or serve on review panels for a number of years or permanently. At the institutional level, research-misconduct may result in reprimand, removal from the project, rank and salary reduction, or dismissal from the institution.

In the-same-accord, Editage Insights (2012), pointed-out, that researchers and professors, usually, were punished, for plagiarisms, by sanctions ranging from suspension, to-termination, with losing their-credibility and perceived-integrity. In-cases, where plagiarism has-been repeatedly-demonstrated, the-consequences may-include: banning the-guilty-researcher, from grant-applications, and even suspension, or dismissal from-a-post.

On-the-other-hand, the-current-practice is that, when a-manuscript is retracted it-is *not* removed, from the-scientific-databases, but it-will, always, be-flagged, as being-unreliable. In the-authors' humble-opinion, editors and publishers, should-consider the-removal, of-the-full-text, of all-the-retracted articles, leaving only an-abstract, and the-Retraction-notice, to-alert the-potential-readers.

Beside the-withdrawal of the-article, and the-public (written) apology, by-the-plagiarist, some editors advocate radical-solutions, such-as reporting, to-the-competent-institutions (e.g. the-relevant committee/commission, within the-related-faculty and university and/or ministry), as-well-as a-ban, on publication, for-some-period, especially for-authors, who-are repeated-offenders, or that they did-it, with evident-intent, to-deceive (Wager, 2014).

On-the-other-hand, according to Editage Insights (2012) 'Plagiarism is not a crime, per se, but is disapproved more on the grounds of moral-offence'. Honesty, in-science, is the-very-basis, of its-existence. Even a-shadow of dishonesty, may-devalue the-work, and lead to-the-loss of respect (Shamin, 2012; Hansen, 2002). Besides, Spender (2004) pointed-out that, plagiarism is *not* only a-legal-issue, but also a pedagogical-one, and rests in the-hands of academics and academic-institutions.

At-an-institutional-level, for-example, MU' Examination Rules and Regulation explain academic-integrity, purely, by-listing prohibited-behaviors, during an-exam, with corresponding punishments, rather than by identifying core-values and manner of conduct, to-be-promoted. Specific- policy on Plagiarism, on the-other-hand, is yet to-be-established, by the-university.

3.3.2. Publishing-process: *main-actors and their-roles, in dealing with plagiarism.*
In-a-publication-process, of a-scientific or academic-paper, the-key-parities, responsible, for publication-integrity and reliability, are: Author(s); Peer-Reviewer(s); and Publisher (editor(s)). The-following-sections will draw a-close-attention, to-the-parties.

3.3.2.1. Authors
Scientific-writing, for most-researches, is a-rather-complex, time-consuming process, demanding an-adequate-writing-skills. A-faculty, who is a-beginner-writer, probably, has-difficulty defining their-own-ideas and differentiating, between common-knowledge and information, which needed to-be, referenced (Carroll, 2004). In-addition, they-may *not* understand, the-value of developing a-unique-idea, in a-field of study, and also they are *not* well-versed, with ethics. Therefore, they plagiarize-unintentionally, due to-genuine-lack of understanding, being *not* familiar, with proper-ways of quoting, paraphrasing, referencing and citing, or when they-are unsure, about the-meaning of 'common-knowledge' and the-phrase 'in-your-own-words'. Due-to-massive-lack, of understanding, of 'the-rules of-the-game', the-beginner-writers, trying to-imitate; trying-to-be like the 'seasoned' and experienced-authors. T. Eliot rightfully-pointed-out, that: 'Immature […] imitate; mature […] steal…'

Moreover, some-faculty-members, especially those, who are-published-authors and experts, in their-field, may-believe that plagiarism, of an-original-idea, or data, is more-severe, than the-plagiarism of a- text. The-author is strongly-supports this-notion; as-phraseology, can *only* make a-real-big-difference, in-English-Literature and Poetry, or some-argumentative-arts-specialties, where more-emphasis is given-to-the-eloquence of expressions. In-science and engineering, however, researchers, do, rely on proven-tests, and solid-facts; phraseology is secondary.

Besides, all-writers, regardless of the-area of their-specialization, generally, do, habitually-exploit the-ideas or words of other-writers, during an-absolutely-necessary-process of review of literature. One of the-purposes of literature-review is, simply, to-avoid 'reinventing the-wheel', and hence it-is a-pre-requisite to any-solid-research. Nevertheless, even in-engineering, a-comprehensive-introduction and so-called 'state of the art'-sections (based on a-strong-literature-review) is always a-big-plus; otherwise the-end-result would-be, not an-interesting-scientific-paper, but a-boring-technical-report.

In-addition, scholars, try-to-convince others, of the-validity, of their-opinions, or findings, by suggesting, that their-theories or findings, compare with the-established-work, of the-scholarly-authorities, on the-subject-matter. In-other-words, one's-work becomes more-convincing, when one can directly indicate the-authorities, whose-studies it expands (Ten-Golden-Rules to Avoid Plagiarism). Moreover, some-authors, believed that it-was-acceptable to 'borrow' text, from different-sources and connect the extractions, to-make a-paragraph; so-called 'mosaic plagiarism', as-referred-to, by-Iverson *et al* (1998). This-believe is also, in-accord with Wilson Mizner, who-states that 'when we steal an idea from one-author, it will be called plagiarism, but when we do it from a few-authors, it is called research!' (Bartlett, 1994). On-the-other-hand, according to-Mason (2009), plagiarizing a-text may be an-indication, that data are also-falsified, which, in-the-eyes, of some-researches, constitutes a much-more serious-misconduct.

Avoiding plagiarism, during such-activities, however, is *not*, always, straightforward or easy, as it is unavoidable that, some of a-writer's-own-thoughts and ideas, will-correlate, very-closely, with those, expressed, by-others. Furthermore, according to Girard (2004): 'What we perceive to be original-thoughts, really may be opinions and ideas, written down by others, and subconsciously-ingrained in us, through thing we have read or seen. This is a dilemma of most-writers', meaning that authors'-intelligence subconsciously re-package the-ideas, after reading numerous-background-literature, for a-particular research. The-situation is expressed, suitably to this-context, by Trent Reznor in the-song 'Copy of a…': "I am just a copy of a copy of a copy of a copy; everything I say has came before…" (Myška, 2015).

From the-other-perspective, Clarke (2006) has-suggested that, while there are strong-arguments for plagiarism, 'copying without attribute can also be valuable'. He-has-stated, that 'avoiding plagiarism requires a great-deal of effort'. He-has-also noted that, there is a-large-amount of written and published material, people has-access-to. Therefore, according to-Clarke, it-is:

> Impractical to avoid repetition, uneconomic for every author to deliver originality in every element of everything he or she writes, and a waste of time and energy that could be applied to more constructive activities. Moreover, much writing within a discipline is intentionally-cumulative, and hence, the incorporation of prior-content is an-intrinsic-feature of almost-all scholarly-writing.

On the-other-hand, publishers, usually, ask the-authors, to-sign a-statement of originality, and even this-option does *not* prevent, from instances of misconduct (Masic, 2012; ICMJE, 2008; COPE, 1999). 'Up-to the-point' brutally-honest and sharp-slogans, such as 'Publication at Any-Cost' and 'Publish or Perish', undeniably, negatively-influence the-whole-research-environment and cultivate recycled-writing (Wager & Kleinert, 2012; Masic, 2012). Amstrong (1993) for-example, pointed-out, on the-example of a reviewer' comment, addressed to-an-author: 'Your-work is both; good and original. Unfortunately the parts that are good are *not* original, and the parts that are original are *not* good'. To-avoid similar-comments, authors should diligently-strive to-produce

original high-quality intellectual-contributions.

In-this-spirit, Kleinert & Wager (2011) and Wager & Kleinert (2011), for-example, summarized the-responsibilities, for-authors, as-follows:

Authors: (1) should-submit papers, *only* on-work, that has-been-conducted, in-an-ethical and responsible-manner, and that complies, with all-relevant-legislation; (2) should-present their-results clearly, honestly, and without fabrication, falsification, or inappropriate-data-manipulation; (3) should-attempt to describe their-methods, clearly and unambiguously, so that their-findings can-be-confirmed, by-others; (4) should-adhere to-publication-requirements, that submitted-work is original, is *not* plagiarized, and has *not* been published, elsewhere; (5) should-take collective-responsibility, for-submitted and published-work; (6) should-ensure, that the-authorship, accurately-reflects individuals' contributions, to-the-work and its-reporting; and (7) should-disclose, relevant-funding-sources and any-existing, or potential-conflicts of interest.

From the-other-perspective, they say, 'to-publish, is to-share', and in-many-instances, an-author, willingly, have to-share-information, even before the-actual-publication. In the-modern-day, collaborative and multidisciplinary-research, honesty, of each and every-author, is becoming a-pillar of trustworthy- science. For multiple-authors-paper, corresponding (first-author) most of the-times, relies and believes in their-co-authors' integrity. It-is imperative, however, that they-take a-personal-responsibility, for the-reliability, of the-final-manuscript, by cross-checking it, *via* anti-plagiarism-software, *before* submitting for a-review, to a-journal. In the-future, such-issues as gathering-data, cooperation, between-scientists, and in-publications will, most-probably, get more-complicated and more-difficult, to-deal-with. In this-regard, trust, and absolute-trust, is paramount, for a-faculty, to-comfortably-collaborate-with other-individuals, openly and entirely sharing-ideas, information and plans; without fear, that their-work will-be-stolen, their-reputation questioned, and their-career, ruined. At a-very-minimum, individuals should-take personal-responsibility, for their-own-honesty, and integrity, and should-strive, to-discourage and prevent-misconduct, by other-colleagues, by providing a 'shining-example' and by increasing their-awareness, on-academic-integrity.

On-the-other-hand, according to *Nature* (2006), some-countries 'offer scientists cash-prizes for publications in top-level International-journals' and hence 'a researcher measuring science in terms of dollars might be more tempted to plagiarize or fabricate data', (the-same, however, is true, of someone measuring-science, in-terms of publication, in *Nature* or *Science*). In-fact, greed and vanity, are-used to control-researchers, through promotion and awards: someone absolutely-free, from such-vices, would-be absolutely-unmanageable. Russian-mathematician Grigori Perelman, for-example, declined a Fields-medal (the 'Nobel prize for math') in-2006, saying that it 'was completely irrelevant for [him]. Everybody understood that, if the proof is correct, then no-other-recognition is needed'. Strangely, he-was *not* praised for his-complete-absence, of vanity, and his-unselfish-search, for knowledge; some-colleagues perceived his-behavior as 'strange' (Titus *et al.,* 2008).

3.3.2.2. Reviewers and editors

Journals are responsible, for safeguarding the-research-record, and hence, have-a-critical-role, in-dealing with-suspected-misconduct. This-is recognized, by the-Committee on Publication Ethics (COPE), which has issued clear-guidelines (COPE, 2009), including on the-form of retractions.

The peer-reviewing-process is the-principal-mechanism, to-ensure the-high-quality of publications. However, recent-studies have-shown, that lack of appropriate-standards, can result in-duplicate-publication, as-well-as publication of papers, which include plagiarism (Long *et al.,* 2009).

Some-authors, for-example, when planning to-submit their-manuscript, for-review, assume that no-one is going to-check, for-plagiarism. Most of the-peer-reviewers, might-believe that it-is the- responsibility, of the-editor. And editors, sometimes, rationalize, that the-process of checking, for plagiarism, is time-consuming; and especially, in-the-cases, of rapid-publication-journals, they are stretched, both; physically and time-wise; and, hence, unable, to-check-through, every-single-paper. Instead of shifting-responsibility, from one-party to the-other, clear-rules should-guide, the-entire-process. Editors of scientific-journals, also-have a-responsibility, to-discourage-plagiarism, as-well-as other-forms of misconduct, and to-be-aware, of the-effects, that such-misconduct may-have, on the-validity, of articles, they-publish (Gollogly & Momen, 2006), and therefore, on-credibility, and reputation of a-journal, itself.

Kleinert & Wager (2011) and Wager & Kleinert (2011) summarized the-responsibilities, for editors as-follows:

Editors: (1) are accountable and should-take-responsibility, for everything, they-publish; (2) should-make fair and unbiased-decisions, independent of commercial-considerations, and should-ensure, a-fair and appropriate-peer-review-process; (3) should-adopt editorial-policies, that encourage maximum-transparency and complete, honest-reporting; (4) should-guard the-integrity of the-published-record, by issuing corrections and retractions, when-needed, and pursuing suspected, or alleged-research, and publication-misconduct; (5) should-pursue reviewer and editorial-misconduct; (6) should-make-it clear, to-peer-reviewers and authors, what is expected of them; and (7) should-have appropriate-policies, in-place, for handling editorial-conflicts of interest.

Moreover, several-studies have-been-conducted, pointing-out on-lack of understanding on plagiarism,

among potential-writers (faculty) and, surprisingly, also among journal-editors. For-example, an assessment of editors of economics-journals, by Enders & Hoover (2004) revealed, that: (1) the-editors considered plagiarism to-include: using unattributed-sentences (34%); unattributed-proof, from working-paper (58.3%); unattributed-proof, from published-paper (66.1%); unattributed-ideas (16.5%); and using privately-collected-data (47.7%). Despite these-concerns, the-majority of editors (81%) did *not* have a formal-policy; to-deal-with these-issues; (2) *Only* one-editor (1.8%) responded that, the-presence of one unattributed-sentence was *not* plagiarism, whereas 34% of respondents considered it definitely to-be a-plagiarism. This-suggests confusion, in-defining plagiarism; and (3) In-case plagiarism-is-detected, the researchers found that 71% said they would definitely notify the-author; 23% would-definitely notify the author's-chair, dean, and provost; 42% would-definitely ban future-submissions, from the-author; and 13% would-definitely publicize-the-incident.

Grossberg (2004), on the-other-hand, states, that plagiarism has *no*-simple-solution, and that 'It can never be addressed-effectively, by simply turning journal-editors and, book and manuscript-reviews, into a disciplinary-police-force'. During journal-publishing-process, there is *no*, so-called, 'police-force', specifically-trained and dedicated, to-fight scientific-misconduct; all-investigations are-made by journal-editors and by experts, in-particular-areas (for example, STE). He-suggests that all-the-stakeholders should 'make a commitment to the basic-standards of ethical-conduct, which includes preventing the misappropriation of other people's words and ideas'.

Beheshti (2011), on the-other-hand, has painted a gloomy-scenario on what can happen, if plagiarism will-go-unrestrained.

If plagiarism turns into an ordinary and usual-activity, it will affect the security of scientific-knowledge and destroy all-social-realms. In such a situation, nobody will bother doing research; rather, everybody will make use of ready-made-knowledge, produced by the past-researchers and will destroy all knowledge. Such-unreasonable-behavior will devastate the foundations of scientific-progress and everything-else. And if a country loses its firm-scientific-foundations, it will remain in past-achievements and will not experience progress.

3.3.3. Plagiarism as a mere-fraction of academic and scientific-misconduct

The-rising-frequency of retractions has recently-elicited a-lot of concern (Van Noorden, 2011). Lewis *et al.* (2011), for-example, highlight increasing-rates, of retractions, from-journals, often, *without* proper-explanation, of the-reasons, behind such-a-drastic-measure.

Studies of selected-retracted-articles have-suggested, that error is more-common, than fraud, as a cause of retraction (Nath *et al.,* 2006) and that, rates of retraction, directly-correlate with journal-impact factor (Fang & Casadevall, 2011). A detailed-review of 2,047 biomedical and life-science research-articles, indexed by PubMed, as retracted on May 3, 2012 revealed that only 21.3% of retractions were-attributable to-error. In-contrast, 67.4% of retractions were attributable to-misconduct, including fraud or suspected fraud (43.4%), duplicate-publication (14.2%), and plagiarism (9.8%). Incomplete, uninformative, or misleading-retraction-announcements, have led, to a-previous-underestimation, of the-role, of fraud, in the ongoing-retraction-epidemic. According to-Ferric *et al.* (2012), the-percentage of scientific-articles retracted, because of fraud, has increased ~10-fold, since 1975.

Previous-investigators have-also-found that many-retracted-articles continue to-be-cited, as if still valid-work, but others have-documented, an-immediate-effect of retraction, on citation-frequency (Furman *et al.,* 2012; Trajkovski, 2011; Baždarić *et al.,* 2009). Most-articles retracted, for fraud, have-originated in countries with long-standing research-traditions (e.g., United States, Germany, and Japan) and are particularly-problematic, for high-impact-journals (Ferric *et al.,* 2012).

On-the-other-hand, according to a-study by Benos (2005), plagiarism contributes a smaller-percentage (7%), (see Figure 2) in-comparison with the-findings of Ferric *et al.* (2012), where its contribution was 9.8%.
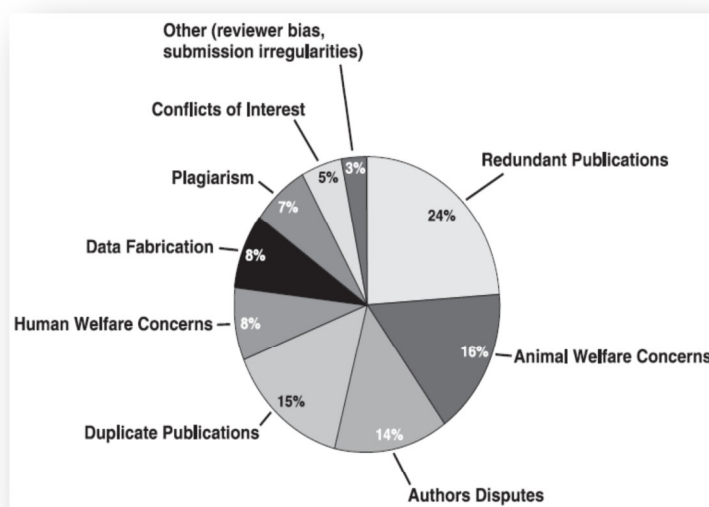
Figure 2: Distribution of ethical-issues in APS-publications: 1996-2004 (Benos *et al.,* 2005).

Some-authors, for-example, argue that, since articles can-be-retracted, for a-variety of reasons, the recent rise in-retractions, may *not* actually-reflect a 'crisis of scientific-integrity' which may-be superficially-suggested, by the-raw-numbers: For-example, past-surveys found that despite an-increasing number of retractions, due to-misconduct (Katavić, 2008; The Office of Research Integrity, 2010), more-articles had-been-retracted, due to-unintentional-errors (Sanjeev, 2008). For this-reason, some have argued, that article-retraction should, generally, be-disengaged from the-stigma of 'misconduct' (Masic, 2012). They argue that, if retractions are-to-be-used, as a 'proxy' for measuring misconduct, then retraction, or 'un-publication', should-be a-last-resort, reserved for *only* the-*most-severe* and *proven*-offences (Donev, 2014; Bilić-Zulle *et al.,* 2005).

From the-above-Figure, it-is clear, that the-impact of plagiarism, in-comparison, with other-types of misconduct, is rather-limited; nevertheless the-overall-implications of plagiarism should-be-taken into-consideration, such-as: damage or, even, loss of reputation, to-the: (1) researcher; (2) affiliated to plagiarist institution, and (3) journal, itself, including reviewer (s) and editor(s). However, for some, 'Even the threat of a damaged-reputation is not a sufficient-deterrent to such-behavior', says Hoover (2006). Therefore, these-persistent-practices, are to-be strongly-discouraged, at-every-stage, of a-publishing process.

Besides, basic-causes of academic-misconduct, are deeply-embedded, in human-imperfections, greed, and ambition; for-example, generally, academics and researchers, are considered to-be very-ambitious, driven by the-ever-increasing-pressure, to-succeed, and to-succeed, fast. The-credentials and the-time, one taught, at a-university-level, are *not*, apparently, enough; there is a-pressing-need to-produce an-evidence of research, in-a-form of high-level-scientific- and academic-publications. Notwithstanding the-ultimate responsibilities, to-avoid plagiarism, by-authors, editors of scientific-journals should-be diligent-custodians of scientific and publishing-integrity, by timely-recognizing, and preventing-plagiarism.

According to a CAI-publication: 'Honesty is the foundation of teaching, learning, research, and service and the prerequisite for full-realization of trust, fairness, respect, and responsibility' (CAI, 1999); collectively, they-are-regarded as the-five-fundamental-values, of academic-integrity. In-the-same-spirit, authors, reviewers and editors, of scientific-journals, should-fight, together, against unethical-research, that contradicts five-fundamental-values, of academic-integrity, and which-is-harmful, to the-scientific community, and overall is-harmful, to-the-society, at-large, by-clearly-violating public-trust. According to Starovoytova & Namango (2016b) 'If plagiarism, however, continues, being: undetected, uncorrected and unpunished; research becomes an effortless-photocopy or duplication of earlier-studies, and suffers from lack of imagination, innovation, uniqueness and, therefore, resulting in-research of *no* scientific-value, whatsoever'.

Marusic (2012), pointed-out that, ethical-aspect of publishing, is particularly-important, for small and developing-economies; hence, active and ethical-participation, of Kenyan-scientists, in-the global-scientific-communication, should-be-practiced, according, to-international-standards.

4. Conclusion and recommendations.

4.1. Conclusion

Majority, (60%) of the-respondents alleged, that plagiarism was *never*-mentioned or explained, to-them, at any-level. The-other-main-finding was that Plagiarism-policy is, yet to-be-established, at the-institutional level.

Jointly, these-findings suggest, a-possible-lack of understanding on-plagiarism, due to inadequate-awareness; as-well-as, a growing-and timely-need of clear-institutional-policy on Plagiarism, pointing, probably, on currently-misplaced-institutional-priorities, alongside with financial-constrains, presently, obstructing design, implementation and enforcement, of such-a-policy.

On-the-other-hand, the-number of quality-publications, in peer-reviewed-reputed-journals, their-citations and usefulness of patents, are commonly-used, as a-measure of a university-reputation, so called 'ranking'; the-higher the-number of quality-research-publications, citations and patents, the-higher is the-academic-reputation, of the-institution. Hence, it-is-only logical, and, beneficial, for any-university, to strive to-provide, an-internal-quality-control and ethical-environment, leading to-a-cherished-tradition of prevention scientific and publishing-dishonesty, including plagiarism. Raising awareness, proper-instruction and guidance, on-plagiarism, at all-the-levels; from undergraduate all-the-way-through, to-doctorate-studies, and also faculty, is therefore, required. Secondly, to-ensure quality and integrity of scientific and academic-publications, there-should-be a-collective, as-well-as, an-individual-responsibility and united, rigorous and dedicated-efforts, by all-the-parties, involved, such-as: authors, particularly a-corresponding (first) author; reviewers, and editors.

Furthermore, so-far, no-records are-available, showing that African-scientists were accused of some-research and publishing-misconduct, including plagiarism. Nevertheless, plagiarism should-be-taken very-very-seriously, in order to, not only, avoid the-sanctions (in-the-form of retraction and possible-damage to a-reputation of an-author), but to-avoid, even, being suspected of a 'dirty'-misconduct. To-achieve this, all the-potential-authors should make their-best-effort, to-comprehend-well, the very-essence of plagiarism, and most-importantly, how to-avoid it, hence, producing an ethical-publication of high-scientific-value, proudly and spotlessly representing the-intellectual-input of academic and scientific-community. The-author trusts, that this-publication is rather-informative and, hence, useful, for any-actor, involved in publishing-process.

To-conclude, the-generalizations of this-study are limited, to the-faculty, who-agreed, to participate, however, it will-be naive, to-presume, that the-situations described are specific, to-a-particular engineering-school or university.

4.2. Recommendations
Several-recommendations, highlighted, in this-section, are presented level-wise.

(1) At an-*international-level*, a-database of all-cases of plagiarism, should-be launched, with disclosure of all-the-names of blacklisted-plagiarists, and affiliated-institutions, and journals.

(2) At a *national-level*, all scientific-institutions and all-universities (public and private) should have a Center for surveillance, security, promotion and development of quality-ethical-research and publication.

(3) At the *university,* a-Policy on-plagiarism, should-be-established, which to-be disseminated among-students and staff; and preferably, published on the-university' web-site, in-libraries, in Dean' and HoD' offices, and in-hostels, as-well.

(4) Subsequently, researchers should-be-educated on correct-citation-usage and intellectual property law.

(5) In-order to-promote and nurture academic-integrity, the author' advice, to our-colleagues and to the-administrative-staff, in the-university, is to-read this-paper and to-discuss, reflect on, as-well as, pursue its-recommendations, for institutional-action.

(6) To *researchers* is recommended to-use anti-plagiarism-software, to-identify plagiarism or self-plagiarism, which, possibly, they themselves are *not* aware of, in-order to-preserve public-confidence and spotless-professional-reputation.

(7) Further-research, to-compare the-prevalence of retracted-articles (due to-plagiarism) between 'seasoned' and 'greenhorn'-writers should-be-conducted, to-ascertain, who plagiarize more and why.

6. Acknowledgement

7. References
Abbott, A. (2012). "Romanian scientists fight plagiarism", *Nature magazine* , 15 August, 2012.
Ali-Attia, H. (2007). "Retracted: unsteady flow and heat transfer on a rotating disk in a porous medium", *Mathematical Methods in the applied sciences*, 29 January.
Amstrong, J. (1993). "Plagiarism what is it, whom does it offend, and how does one deal whit it?", *Am J Roentgenol*, 161.
Anderson, K. (2002)."SUNY classics professor is accused of plagiarism". In: New York Times, B1, B5.
Anonymous. (2004). "PhD-club or history?", *Nature*, 429: 789.

Astray, G. (2010). "Addition/Correction: Prediction of Refractive Index of Polymers Using Artificial Neural Networks", *Journal of Chemical & Engineering Data*, 56 (3).

Austin, M. and Brown, L. (1999). "Internet plagiarism: developing strategies to curb student academic dishonesty", *The Internet and Higher Education*, 2.

Auer, N. and Krupar, E. (2001). "Mouse click plagiarism: The role of technology in plagiarism and the librarian's role in combating it", *Library Trends,* 49(3).

Bahadori, M.; Izadi, M. and Hoseinpourfard, M. (2012). "**Plagiarism: Concepts, Factors and Solutions",** *Iranian Journal of Military Medicine* ,Vol. 14, No. 3.

Bartlett, J. (1994). "Familiar quotations: a collection of passages, phrases, and proverbs traced to their sources in ancient and modern literature", Little, Brown, and company.

Baty, P. (2002). "Plagiarism puts Monash V-C out of a job". In: Times Higher Education Supplement, 1.

Baždarić, K.; Pupovac, V.; Bilić-Zulle, L. and Petrovečki, M. (2009). "Plagiarism as a violation of scientific and academic integrity", *Medicina*, Vol. 45, No. 2.

Begovic E. (2014)."My view on plagiarism", *Acta Informatica Medica*, 22 (1).

Beheshti, S. (2011). Plagiarism. [Online] Available: http://www.tebyan.ne. (July 22, 2016).

Benos, D. *et al.* (2005). *"*Ethics and scientific publication", *Adv Physiol Educ,* 29.

Bilić-Zulle, L.; Frković, V.; Turk, T.; Ažman, J. and Petrovečki, M. (2005). "Prevalence of plagiarism among medical students", *Croat Med J*, 45.

Bilić-Zulle, L. (2007). "Scientific honesty – the foundation of the existence and development of science", *Biochemia Medica* , 17.

Blackboard (2007). Blackboard SafeAssign: Building blocks instructor manual. Washington, DC.

Blum, S. (2009). My Word! Plagiarism in College, Cornell University Press

CAI (1999). The Center for Academic Integrity: "The fundamental values of academic integrity", College Relations at Oakton Community College, Des Plaines, Illinois.

Carroll, J. (2004). "Deterring, detecting and dealing with plagiarism", [Online] Available: www.oxfordbrooks.ac.uk (November 2, 2016).

Cizek, G. (1999). Cheating on Tests: how to do it, detect it, and prevent it. Mahwah, N.J.: Lawrence Erlbaum Associates.

Civil Suit 94 (2010). Anne Nang'unda Kukali vs. Mary A Ogola & University of Nairobi [2010] eKLR High Court of Kenya at Bungoma, [Online] Available: www.kenyalaw.org (July 12, 2016).

Clarke, R. (2006). "Plagiarism by academics: More complex than it seems", *Journal of the Association for Information Systems* 7.

Collberg, C. and Kobourov, S. (2005). "Self-Plagiarism: In Computer Science", *Communications of the ACM,* 48:4.

Comunicar journal (2016). "Ethics and plagiarism in scientific communication", 48, 2016/03.

COPE (1997). Committee on Publication Ethics: Guidelines on good publication practice [Online] Available: http://publicationethics.org/files/u7141/1999pdf13.pdf (September 29, 2016).

COPE (1999). The COPE Report 1999: "Coping with fraud", pg 11–18.

COPE (2009). Committee on Publication Ethics: Retraction guidelines. www.publicationethics.org

COPE (2016). Committee on Publication Ethics: Code of Conduct and Best Practice Guidelines for Journal Editors. [Online] Available: http://publication ethics.org/resources/guidelines. (July 12, 2016).

CPE (2012).Committee on Publication Ethics: Promoting integrity in research publication. [Online] Available: http://publicationethics. org/ (Oct 27, 2016).

Decoo, W. (2000). "Corruption plagues academe around the world", *The Chronicle of Higher Education*, A32.

Decoo, W. (2002). Crisis on Campus: confronting academic misconduct. Cambridge, MA: MIT Press.

Denzin, N. and Lincoln, Y. (2000). Introduction: The discipline and practice of qualitative research. In N. K. Denzin, & Y. S. Lincoln (*Eds.*), Handbook of qualitative research (*2nd ed.*) (pp. 509–535). Thousand Oaks, CA 7, Sage.

Donev D. (2013). "Principles and ethics in scientific communication in biomedicine", *Acta Informatica Medica*, 21 (4): 228-33. [Online] Available: http://www.scopemed.org/fulltextpdf.php? mno=48407(July 11, 2016).

Donev D. (2014). "New developments in publishing related to authorship. Prilozi-Contributions", *Sec. Biol. Med. Sci.*, 35(3).

Donev D. (2015). "Plagiarism as a problem in scientific publishing", *Medicus,* December 2015.

Dunne, S.; Harney, S. and Parker, M. (2008). "The responsibilities of management intellectuals: A survey", *Organization,* 15(2).

Ebert, L. (2010). "Anatomy of an academic plagiarism case: Kinavey in Pittsburgh", *Intellectual property news affecting business and everyday life,* 12:3.

Editage Insights (2012). "Duplicate publications and simultaneous submissions", [Online] Available:

http://www. editage.com/resources/art15.html (November 2, 2016).

Enders, W. and Hoover, G. (2004). "Whose line is it? Plagiarism in economics", *Journal of Economic Literature, 62*(2).

Enders, W. and Hoover, G. (2006). "Plagiarism in the economics profession: A survey", *Challenge* 49.

Errami, M. and Garner, H. (2008). "A tale of two citations", *Nature,* 01-23.

Errami, M.; Hicks, J.; Fisher, W.; Trusty, D.; Wren, D.; Long,T. and Garner, H. (2007). "Déjà vu – A Study of Duplicate Citations in Medline", *Bioinformatics*, December 2007.

Fairbanks, D. and Rytting, B. (2001). "Mendelian controversies: a botanical and historical review", *Amer J Botany,* 88.

Fanelli, D. and Tregenza, T. *ed.* (2009). "How Many Scientists Fabricate and Falsify Research?", A Systematic Review and Meta-Analysis of Survey Data.

Fang, F. and Casadevall, A. (2011). "Retracted science and the retraction index", *Infect Immun*, 799.

Ferguson, C. "Blatant plagiarism sinks paper (and earns a sabbatical!) for mathematician", Retraction Watch.

Ferric, C.; Fanga,L.; Steenc,G. and Casadevalld, A. (2012). "Misconduct accounts for the majority of retracted scientific publications", *PNAS*, vol. 109, no. 42, 17028–17033.

Ferris, L.(2007). "Scientific Misconduct and International Communities", In: Carmi A, Ferris L, Nachshon D, *eds.* Medicine and law - Theme issue on scientific misconduct, World Association for Medical Law, *Medicine and Law,* 26(3).

Flint, A.; Clegg, S. and Macdonald, R. (2006). "Exploring staff perceptions of student plagiarism", *Journal of Further and Higher Education, 30*(2).

Furman, J.; Jensen, K. and Murray, F. (2012). "Governing knowledge in the scientific community: Exploring the role of retractions in biomedicine", *Res Policy*, 41.

Giles, J. (2004). "News feature: plagiarism in Cambridge physics lab prompts call for guidelines", *Nature* 427: 3.

Gill, C. (2006). "China's top communist scholar 'stole liberal dissident's ideas", The Guardian.

Girard, N. (2004). "Plagiarism: An ethical problem in the writing world'," *AORN Journal, 80*(1), 13-15.

Gollogly, L. (2006). "Momen H. Ethical dilemmas in scientific publication: pitfalls and solutions for editors", *Revista de Saude Publica,* 40.

Goodstein, D. (2002). "Scientific misconduct", *Academe (AAUP),* January–February.

Grossberg, M. (2004). "Plagiarism and professional ethics-A journal editor's view", *The Journal of American History, 90*(4), 1333-1340.

Hardy, M. and Bryman, A. (2009). Handbook of Data Analysis, SAGE publishers.

Hansen, T. (2002). "Neonatal jaundice and scientific fraud in 1804", *Acta Paediatrica,* 91.

Hayes, N. and Introna, L. (2005). "Cultural values, plagiarism, and fairness: When plagiarism gets in the way of learning", *Ethics & Behavior*, 15(3).

Heruti-Sover, T. (2014-09-03). "Lies of Educators", Haaretz.

Honig, B. & Bedi, A. (2012). "The Fox in the Hen House: A Critical Examination of Plagiarism among members of the Academy of Management", *Academy of Management Learning and Education*, 11(1).

Hoover, G. (2006). "A game-theoretic model of plagiarism', *Atlantic Economic Journal, 34*(4).

Hudd, S.; Apgar, C.; Bronson, E. and Lee, R. (2009). Creating a campus culture of integrity: Comparing the perspectives of full - and part-time faculty, *The Journal of Higher Education*, 80(2).

ICMJE (2008): International Committee of Medical Journals Editors. Uniform Requirements for Manuscript Submitted to Biomedical Journals: Writing and Editing for Biomedical Publication. [Online] Available: http://www.icmje.org/.(October 16, 2016).

Office of Research Integrity (2010). A European Code of Conduct for Research Integrity, Newsletter, December 2010, Vol. 19: 1.

Iverson, C. *et al* (1998). American Medical Association Manual of Style. A Guide for Authors and Editors, 9th ed., Baltimore: Williams and Wilkins.

Jones, D. (2011). "Academic dishonesty: Are more students cheating?", *Business Communication Quarterly*, 74(2).

Katavić, V. (2006). "Five year report of Croatian Medical Journal's research integrity editor – policy, policing, or policing policy', *Croat Med J*, 47.

Katsnelson, A. "Duplication of "a major-part of text and results" adds up to third-retraction for mathematician", Retraction Watch.

Kennedy D. (2002). "Next steps in the Schön affair", *Science,* 298: 495.

Kezar, A. and Lester, J. (2009). *Organizing higher education for collaboration: A guide for campus leaders*. San Francisco: Jossey-Bass.

Kleinert, S. and Wager, E. (2011), "Responsible research publication: international standards for editors", Position Statement developed at 2nd World Conference on Research Integrity, Singapore, 22-24 July 2010, in Mayer, T, and Steneck, N, (eds), *Promoting Research Integrity in a Global Environment*,

Imperial College Press/World Scientific Publishing, Singapore, chapter 51, pp 317–328.

Kleinert, S. (2009). "COPE's retraction guidelines", *Lancet,* 374(9705).

Köhler, K. and Debora Weber-Wulff, D. (2010). Plagiarism detection test 2010. [Online] Available: http://plagiat.htw-berlin.de/wp-content/uploads/PlagiarismDetectionTest2010-final.pdf (July 23, 2016).

Koocher, G. and Speigel, P. (2010). "Peers Nip Misconduct in the Bud", *Nature,* 466.

Kwong, T.; Ng, H.; Mark, K. and Wong, E. (2010). "Students' and faculty's perception of academic integrity in Hong Kong", *Campus-Wide Information Systems*, 27(5).

Lacetera, N. and Zirulia, L. (2011). "The Economics of Scientific Misconduct", *Journal of Law, Economics, & Organization,* 27:3.

Lewis, B.; Duchac, J. and Beets, S. (2011). "An academic publisher's response to plagiarism", *Journal of Business Ethics,* 102 (3).

Lincoln, Y. and Guba, E. (1985). Naturalistic Inquiry, SAGE Publications

Lock, S. (1995). "Lessons from the Pearce affair: handling scientific fraud", *BMJ* 310: 1547–8, June 17.

Long, T.; Errami, M.; George, A.; Sun, Z. and Garner, H. (2009). "Scientific integrity: Responding to Possible Plagiarism", *Science,* 03-6.

Mallon, T. (2001) Stolen Words: Forays into the Origins and Ravages of Plagiarism, 2000 edition, New York Times.

Markta, T. (2011). "Ohio University Plagiarism: Ohio University Academic Standards Still Lowest", Wednesday, July 27, 2011

Martin, B. (2007). "Keeping plagiarism at bay: A salutary tale", *Research Policy,* 36(7).

Marusic A. (2012)."Importance of Ethical Publishing in Developing Countries", *Acta Inform Med,* 20(1): 4.

Masic I, Kujundzic E. (2013). "Science Editing in Biomedicine and Humanities", *Avicena. Sarajevo*, 11-144.

Masic, I, (2012). "Plagiarism in the scientific publishing", *Academic Search Complete*, 4, pp. 208-213,

Masic, I. (2014). "Plagiarism in Scientific Research and Publications and How to Prevent It", *Mater Sociomed,* 26 (2).

Mason, P. (2009). "Plagiarism in Scientific Publications", *J Infect Developing Countries,* 3(1).

Massey, S. and Webster, D. (1997). *Scholarly publishing in America*. U.S. Department of Education, Office of Educational Research Information Center.

Maurer, H.; Kappe, F. and Zaka, B. (2006). "Plagiarism-a survey", *Journal of Universal Computer Science,* 12(8).

Maxymuck, J. (2006). "The persistent plague of plagiarism", *The Bottom Line, 19*(1), 44-47.

McCabe, D. and Feghali, T. (2008)."Academic dishonesty in middle East individual and contextual factors", *Res Higher educ,* 49.

Ministry of Justice of R. Macedonia. The Criminal Law. Official Gazzette of RM 37/96 & 41/14.

Mojon-Azzi, S. and Mojon, D. (2004). "Scientific misconduct: from salami slicing to data fabrication", *Ophthalmic Res,* 36(1).

Muchuku, J. (2011), "Plagiarism in Article Writing in Kenya", *Online Business,* [Online] Available: http://emarketingkenya.com/181/plagiarism-in-article-writing. (October 21, 2016).

Myska, M. (2015). "Plagiarism, Copyright Law and the Myth of Originality" presented at the Conference on plagiarism across Europe and beyond, June 10-12, Mendel University.

Nadler, B; Naeh, T. and Schuss, Z. (2014). "The Stationary Arrival Process of Independent Diffusers from a Continuum to an Absorbing Boundary Is Poissonian", *SIAM J. Appl. Math,* 62.

Nath, S.; Marcus, S. and Druss, B. (2006). "Retractions in the research literature: Misconduct or mistakes?", *Med J Aust* ,185.

Nathan, R. (2012). Conference on Plagiarism, Office of Research Integrity (Revised February 15, 2002). Washington DC: U.S. Department of Health and Human Services.

Nature (2006), "Cash per publication…", *Nature* 441, 786.

Noah, H. and Eckstein, M. (2001). Fraud and Education: the worm in the apple. Lanham, MD: Rowman & Littlefield.

NSF (2013). National Science Foundation: NSF Audit of Successful Proposals Finds Numerous Cases of Alleged Plagiarism, By Jeffrey Mervis, Mar. 8, 2013.

Pappas, S. (2012). "Romanian Prime Minister Accused of Plagiarism", *Live Science Contributor*, June 18, 2012.

Park, C. (2003). "In other (people's) words: Plagiarism by university students literature and lessons ", *Assessment & Evaluation in Higher Education,* 28(5).

Parmley, W. (2000). "Plagiarism: How serious is it?", *Journal of the American College of Cardiology, 36*(3), Pupovac, V.; Bilic-Zulle, L. and Petrovecki, M.(2008). On academic plagiarism in Europe. An analytic approach based on four studies. In: R. Comas R, Sureda J (*eds.*). "Academic cyberplagiarism". Digithum.

Rao, K. (2008). "Plagiarism a scourge", *Current Science*, 94 (5).

Redman, A. and Berz, C. (2010). "Scientific Misconduct: Do the Punishments Fit the Crime?", Sciencemag.
Research Triangle Institute (1995). "Consequences of Whistle-blowing for the Whistleblower in Misconduct in Science Cases".

Roig M. (2005). "Re-using text from previously published papers: an exploratory study of potential self-plagiarism", *Psychology Reports,* 97.

Roman-Gomez, J.; Jiminez-Velasco, A.; Castillejo, J.; Agirre, X.; Barrios, M.; Navarro, G.; Molina, F.; Calasanz, M.; Prosper, F.; Heiniger, A. and Torres, A. (2004). "Promoter hypermethylation of cancer-related genes: a strong independent prognostic factor in acute lymphoblastic leukemia", *Blood*, 2004; 104.

Rowe, M.; Wilcox, L. and Gadlin, H. (2004). "Dealing with—or Reporting—'Unacceptable' Behavior—with additional thoughts about the 'Bystander Effect'", *JIOA*, vol.2, no.1.

Salmons, J. (2007). "Online social culture: Does it foster original work or encourage plagiarism?", [Online] Available: http://www.vision2lead.com/Originality.pdf (August 27, 2016).

Sanjeev, H. (2008). "Plagiarism and publication ethics: Dos and don'ts. Indian Journal of Dermatology", *Venereology and Leprology*, July-August, 74(4).

Saunders, R. and Savulescu, J. (2008). "Research ethics and lessons from Hwanggate: what can we learn from the Korean cloning fraud?", *Journal of Medical Ethics*, 34.
Schultz, W. (2008). "A massive case of fraud", *Chemical and Engineering News, 86*(7).

SIAM Journals (2011). Plagiarism, duplicate publication, and other suspected author, editor, or referee misconduct - SIAM Guidelines for Journal Editorial Boards. [Online] Available: http://www.siam.org/journals/plagiary/Plagiarism_guidelines_Mar2011.pdf. (July 1, 2016).

Shamin, T. (2012)."The latest developments in plagiarism detection in medical literature", *European Science Editing,* 38(2).

Sheard, J. and Dick, M. (2012). Directions and Dimensions in Managing Cheating and Plagiarism of IT Students. [Online] Available: http://dl.acm.org/citation.cfm?id=2526968.2526971(July 29, 2016).

Spender, D. (2004). Plagiarism and plausibility: University of Technology, Sydney.

Spivak, A. (2008a) ." The Steady State Absorption Stream at an Absorbing Boundary", *International Journal of Pure and Applied Mathematics*, 44.

Spivak, A. (2008b). "The Probabilistic Charactrization of the Arrival Process of Particles into an Absorbing Boundary", *International Journal of Pure and Applied Mathematics,* 48.

Spivak, A. (2014). "Successive approximations for optimal control in some nonlinear systems with small parameter (retracted article)", Proceedings of the 6th International Conference on Numerical Analysis.

Starovoytova, D. and Namango, S. (2016a). "Viewpoint of Undergraduate Engineering Students on Plagiarism", *Journal of Education and Practice,* ISSN 2222-1735 (Paper), ISSN 2222-288X (Online), Vol.7, No.31.

Starovoytova, D. and Namango, S. (2017). "Awareness of Engineering-Faculty on Plagiarism", *Research on Humanities and Social Sciences*, ISSN (Paper) 2224-5766 ISSN (Online) 2225-0484 (Online), Vol.7, No.7.

Starovoytova, D and Namango, S. (2016c). "Faculty Perceptions on Cheating in Exams in Undergraduate Engineering", *Journal of Education and Practice,* ISSN 2222-1735 (Paper), ISSN 2222-288X (Online), Vol.7, No.30, 2016.

Starovoytova, D. and Cherotich, S. (2016). "Analysis of Masculinities across Engineering Disciplines", *Research on Humanities and Social Sciences*, ISSN (Paper) 2224-5766 ISSN (Online) 2225-0484 (Online), Vol.6, No.18.

Starovoytova D.; Tuigong, D.; Sitati, S.; Namango, S.; Ataro, E. (2015)"Potential of Theory of Innovative Problem Solution (TRIZ) in Engineering Curricula", IJISET - *International Journal of Innovative Science, Engineering & Technology*, Vol. 2 Issue 5, May 2015, pp.984-994, ISSN 2348 – 7968.

Steen, R. (2011). "Retractions in the scientific literature: Is the incidence of research fraud increasing?", J *Med Ethics*, 37.

Stewart, W. and Feder, N. (1987)."The integrity of the scientific literature", *Nature* 325.

Talan, J. and Firstman, R. (1997). The death of innocents. New York: Bantam Books. ISBN 0-553-10013-0.

Ten-Golden-Rules to Avoid Plagiarism, [Online] Available: http://www.academicintegrity.uoguelph.ca/academic-integrity/ten-golden-rules-academic-integrity(October 17, 2016).

Titus, S.; Wells, J. and Rhoades, L. (2008). "Repairing research integrity", *Nature,* 453(7198).

Tomsho, R. (2006). "Student Plagiarism Stirs Controversy at Ohio University", Wall Street Journal, Aug 15.

UNESCO (2003). Combating academic fraud towards a culture of integrity. Published by International Institute for Educational Planning. [Online] Available: http://unesdoc.unesco.org/images/0013/001330/133038e.pdf (July 12, 2016).

Van Noorden, R. (2011). "Science publishing: The trouble with retractions", *Nature*, 478: 26–28.

VirginiaTech (2011). "Research misconduct — what it is and how to avoid it", Guidance-booklet, Office of the Vice President for Research. [Online] Available: www.research.vt.edu (September 2, 2016).

Wager, E. and Kleinert, S. (2012). "Cooperation Between Research Institutions and Journals on Research Integrity Cases: Guidance From the Committee on Publication Ethics (COPE)", *Acta Inform Med,* 20(3).

Wager E. (2014). "Defining and responding to plagiarism", *Learned publishing,* 27(1).

White C. (2008)."Plagiarism detection system to be launched in June", *British Medical Journal,* 336:797.

Whitley, B. and Kite, M. (1998). "The classroom environment and academic integrity: a behavioral science perspective." In: D.D. Barnett, L. Rudolph, and K.O. Clifford (Eds.), *Academic integrity matters,* (pp. 39-56).

Xie, Y. (2008). "What are the consequences of scientific misconduct?", *Ars Technica*, 08/12.

Yung, A. and Sharma, Y. (2013). "Academic found guilty of fraud on 'unprecedented' scale", University World News (254), 11 January, 2013.