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by Lufi Yuwana Mursita

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EGO DEPLETION AND ITS EFFECT ON AUDITORS' JUDGMENT AND DECISION-MAKING QUALITY

Lufi Yuwana Mursita

Accounting Department, Sekolah Tinggi Ilmu Ekonomi Perbanas Surabaya
lufi.yuwana@perbanas.ac.id

Nurul Mustafida

Accounting Department, Sekolah Tinggi Ilmu Ekonomi Perbanas Surabaya
nurul.mustafida@perbanas.ac.id

Rizki Rachmadia¹

Master of Accountancy Program, Universitas Airlangga
rizki.rachmadia-2018@feb.unair.ac.id

Abstract

This study aimed to examine the determinants of ego depletion and its effect on judgment and decision-making (JDM) quality. Auditing is one of the professions vulnerable to ego depletion, which is a temporary state of lack of cognitive resources to self-control caused by physical or psychological fatigue. Data were collected via online survey on 121 auditors in Indonesia who were selected by convenience sampling. The results showed that interpersonal conflict positively affected ego depletion. In line with ego depletion theory, the results supported previous research that ego depletion negatively affected JDM quality. Interestingly, this research also found that the level of industry-specific experience reduced the effect of ego depletion on JDM quality. In conclusion, psychological problems had a more significant influence on auditor cognitive resources than physical problems, which could then have an impact on his/her performance in generating judgments and decisions.

Keywords: ego depletion, judgment and decision-making (JDM) quality, industry-specific experience, sleep quality, interpersonal conflict

Abstrak

Penelitian ini bertujuan untuk menguji determinan dari terjadinya *ego depletion* dan pengaruhnya terhadap kualitas *judgment and decision-making* (JDM). Auditor merupakan salah satu profesi yang rentan terhadap *ego depletion*, yakni kondisi sementara kekurangan sumber daya kognitif untuk pengendalian diri yang disebabkan oleh kelelahan secara fisik dan psikologis. Data dikumpulkan melalui survei daring kepada 121 auditor di Indonesia dengan *convenience sampling*. Hasil menunjukkan bahwa konflik interpersonal berpengaruh positif terhadap *ego depletion*. Sejalan dengan teori *ego depletion*, hasil mendukung penelitian terdahulu bahwa *ego depletion* berpengaruh negatif terhadap kualitas JDM. Menariknya, penelitian ini juga menemukan bahwa pengalaman spesifik industri menurunkan pengaruh *ego depletion* pada kualitas JDM. Secara umum, disimpulkan bahwa masalah psikologis lebih berpengaruh pada sumber daya kognitif auditor dibanding masalah fisiknya, yang kemudian dapat berdampak pada performa dalam menghasilkan penilaian dan keputusan.

¹ Corresponding author

Kata kunci: *ego depletion*, *kualitas judgment and decision-making (JDM)*, *pengalaman spesifik industri*, *kualitas tidur*, *konflik interpersonal*

BACKGROUND

Auditor is another keyword in the auditing practice aside from the auditing process in and of itself (Tuanakotta 2013). Hence, the psychological welfare of an auditor serves as an important topic in behavioral accounting research. Research suggests that the individual characteristics of an auditor is a significant determinant of his/her performance in making judgments (Solomon and Trotman 2003). Judgment and decision-making are a fundamental task to an auditor in improving his/her auditing quality (Knechel et al. 2012; Zhang et al. 2017). An auditor with a high level of moral awareness tends to better regulate his/her behaviors, hence minimizing unethical behaviors in the decision-making (Gunia et al. 2012).

Aside from individual characteristics and moral awareness, there is self-control factor. Self-control is defined as an ability to control one's own behaviors according to the prevailing standards (Baumeister 2007). The depreciating self-control power known by the term *ego depletion* tends to encourage one to behave unethically (Gino et al. 2010; Kouchaki and Smith 2014). Ego depletion theory was proposed by social psychologist Roy Baumeister (1998) over his experience at the Case Western University on the basis of the strength model of self-control. This theory states that one's ability or willpower to perform self-control depends on limited and exhaustible cognitive resources (Baumeister et al. 1998; Hurley 2019). Despite such properties, self-control is an important aspect in an auditor's various decision-making processes for a decline in this aspect may hinder his/her judgment and decision-making (JDM) quality (Hurley 2019).

Auditing is one of the professions highly susceptible to ego depletion. This is so due to the cognitive burden an auditor must bear which tends to rise as the profes-

sion involves multitasking for an efficient job completion (Mullis and Hatfield 2018). Such a nature of an auditor's job leads to ego depletion. Hurley (2017) found that during a busy season, an auditor would start out his/her job every day with a depleted mental state, which causes a decreased JDM quality. This is so because over a busy season, the working hours are longer, the workload is increased, and the deadline-driven stress is improved (Sweeney and Summers 2002). Self-control need is inherent in the performance of audit tasks, hence increasing the workload during a busy season. The subsequent consequences are increased ego depletion and decreased JDM quality in the auditor (Hurley 2017).

Ego depletion is a temporary state when an initial self-control process (e.g., controlling the environment and self, making a choice, and initiating an action) undermine later self-control ability (Baumeister et al. 1998). Some studies focused on the relationship of one's depleted cognitive resources to ethical decision-making (Zhang et al. 2017). In the auditing sector, Hurley (2019) discovered a negative relationship between ego depletion and auditor JDM quality. This is in line with prior works which found that one's depleted cognitive resources had a fairly significant effect on ethical behavior (Lian et al. 2017; Danziger et al. 2011; Hagger et al. 2010). Yam et al. (2014) conducted a series of experiments to investigate into the conditions that enable ego depletion to positively (or negatively) influence unethical behavior with subjective fatigue serving as a moderator variable. The results showed that ego depletion was linked to a reduction in unethical behavior in the event of a high social consensus as a consequence of the increased subjective fatigue.

This research aimed to examine the factors affecting ego depletion and the effect of ego depletion on JDM quality. Previous findings of the factors influencing

ego depletion revealed that interpersonal conflict (Baumeister, Wright, and Carreon 2018), busy season (Hurley 2017), and sleep quality (Baumeister, Wright, and Carreon 2018) affected ego depletion, which in turn influenced JDM quality (Hurley 2019). Meanwhile, industry-specific experiences would change cognitive processing into automatic and heuristic-based, and they were also found to weaken the ego depletion effect (Neal et al. 2013). Specifically, the research of Baumeister, Wright, and Carreon (2018) investigated into the influences of biological intake (food and sleep), state of illness or being ill, and interpersonal conflict on ego depletion (self-control) in daily life through a survey with a large sample of various professional back-grounds over a period of 14 days. As for this research, a focus was placed on the auditing profession, 53 examination was conducted further on the effect of ego depletion on auditor attitude. This research's data were cross-sectional in nature. Hence, this research deviated from that of Baumeister, Wright, and Carreon (2018) with respect to professional scope, consequential variables, and timeframe of survey.

This research is significant for two reasons. First, research on ego depletion and JDM quality in the audit sector in Indonesia has never been conducted. Previous research stated that the emotional reactions resulted from ego depletion could have a significant effect on auditor judgment (Finucane et al. 2000; Hurley 2015; Hurley 2017). Hence, this study would provide preliminary findings related to the factors causing ego depletion and the effect of ego depletion on auditor JDM quality to serve as an empirical reference for auditors in Indonesia in keeping their performance quality through cognitive resources maintenance.

Second, this research is significant for the comparison of the normative requirements of code of ethics in the auditing profession against the actual phenomenon faced by auditors. Palmer et al. (2004) in their comprehensive study identified

important skills, knowledge, and attitudes to accountants, namely communication, interpersonal ability, general business knowledge, accounting knowledge, problem solving skill, information technology, and professionalism. The American Institute of Certified Public Accountants (AICPA) states that emotional intelligence and interpersonal skills are key to success for professional accountants (Akers and Porter 2003; Esmond-Kiger et al. 2006; Glodstein 2014). This research showed that ego depletion is a state experienced by virtually all auditors and is a potential factor that affects ethical values in auditors' judgment and decision-making. Besides, this study also drew an inference that in performing their professions, it takes typical personal efforts for each individual auditor to reduce unfavorable emotional conditions and to ensure that the code of ethics is practiced consistently.

This study employed the online survey method on 121 external auditors who were working at public accounting firms in Indonesia. The testing results showed that interpersonal conflict had a positive effect on ego depletion. On the other hand, the physical conditions represented by the variable sleep quality were found to have no effect on ego depletion. Meanwhile, level of ego depletion was discovered to negatively affect JDM quality. It was also found that the effect of ego depletion on JDM quality varied by auditor industry-specific experience, in which case industry-specific experience undermined the relationship between the two variables.

This research made two primary contributions. First, research on JDM or ego depletion is research on auditor behavior from the psychological perspective. Much of ego depletion research used the laboratory experiment method (Hurley 2015, 2017, 2019; Lee et al. 2017); hence its existence and phenomenon in real life have yet to be widely explored (Baumeister, Wright, and Carreon 2018). This research sought to enrich research on JDM and ego depletion by examining the ego depletion phenomenon in the concrete

dynamics of the auditing profession through the survey method. Additionally, this research also made a practical contribution by showing the importance that auditors should be careful in making decision under the condition of a high ego depletion level. For a decreased JDM quality, both individual and collective (peer) efforts are needed to generate final decisions and judgments during the auditing process. This research also presents a preliminary proof that industry-specific experience could undermine the effect of ego depletion on JDM quality.

LITERATURE REVIEW AND HYPOTHESES FORMULATION

Ego Depletion Theory

Ego depletion theory stems from the strength model of self-regulation. In work, one needs self-regulation from which a change is generated in him/herself, psychologically and behaviorally. The strength model of self-regulation is a model which draws upon the analogy of muscle in explaining ego depletion, willpower, and performance (Baumeister, Tice, and Vohs 2018). As with muscle, strength model describes that self-regulation consumes a limited amount of energy resources and results in ego depletion when the energy reaches the lowest level (Baumeister and Vohs 2018). Self-regulation activities cover controlling thoughts, controlling emotions, overcoming undesirable pressures, fixing attention, guiding behaviors, and making choices.

An example of self-regulation in work is maintaining emotional stability, such as, keeping temper and maintaining concentration. Consequently, self-regulation basically takes a greatly effortful process. According to the strength model, self-control may be disturbed by excessive previous physical and mental exertion (Muraven et al. 1998). This is because an individual possesses limited cognitive resources (self-control), which will be depleted if used. Ego depletion is a temporary state of depleted self-control

resources due to excessive physical and mental exertion (Baumeister et al. 2007).

Specifically, the strength model of ego depletion is underpinned by five assumptions, namely, self-control is required to make decisions and initiate or interrupt various kinds of behavior, is dependent on depletable, limited cognitive resources, is possessed by every individual at various levels; has its current level determining an individual's success in engaging in self-control behavior and requires a resources amount that reduces the 'allocation' of resources for future self-control (Hurley 2019). The second assumption places the greatest emphasis on ego depletion. Yet the entire assumptions basically suggest that the ability and/or will to train self-control is dependent on exhaustible, limited cognitive resources (Hurley 2017).

Baumeister et al. (2007), based on some research findings, state that ego depletion may arise from physical factors which require testing through physical examination. One of the factors is the sugar level in blood, which, if low, can trigger ego depletion. Given that the focus of this work was auditors, then to keep in track with the research objective, variable testing through physical examination was deemed improbable. The employment of the online survey method to collect data from auditors undermined the physical examination method use relevance. In addition, such physical factor as glucose level is not a variable that belongs to the social research dimension. Sleep quality and interpersonal conflict, on the contrary, were considered appropriate variables to study in the context of ego depletion among auditors, given that the two factors are very close to auditors' daily activities. Although investigation into the two ego depletion antecedents above has been conducted previously by Baumeister, Wright, and Carreon (2018), such an investigation was not conducted within the audit environment.

Earlier works researched the factors influencing ego depletion. It was found that interpersonal conflict (Baumeister, Wright,

Carreon 2018), busy season (Hurley 2017), and sleep quality (Baumesiter, Wright, and Carreon 2018) affected ego depletion. Meanwhile, the notion that task-specific experience would alter cognitive processing from manual into automatic and heuristic-based was also supported by the finding of a negative effect on ego depletion (Neal et al. 2013).

Hypotheses Formulation

8 *The Effect of Sleep Quality on Ego Depletion*

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According to the ego depletion theory and strength model of self-control by Baumeister et al. (1998), energy is always in demand to human beings and is exhaustible if continuously used to perform work. Biological intake influences an individual's level of ego depletion (Baumeister, Wright, and Carreon 2018). One of the biological aspects found to have an influence on level of ego depletion is sleep quality. Low level of sleep quality will cause degraded executive function due to weakened self-control and cognitive fatigue (Barnes et al. 2011).

Prior research found that deviance and maladaptive behavior at work increased due to low level of sleep quality (Barnes et al. 2011). This is because a low level of sleep quality will deplete the energy that determines one's self-regulation ability (Kaplan and Berman 2010), or, in other words, it triggers ego depletion. Hence, the better an auditor's sleep quality the lower the ego depletion. Conversely, if an auditor has a low level of sleep quality, he/she will be more likely to experience ego depletion. The findings by Baumeister, Wright, and Carreon (2018), Hurley (2015), and Barnes et al. (2011) supported that sleep quality negatively affected ego depletion. Thus, the first hypothesis proposed is as follows:

H₁: Sleep quality has a negative effect on ego depletion

The Effect of Interpersonal Conflict on Ego Depletion

An interpersonal conflict an individual is inflicted in will use up his/her cognitive resources and face him/her with a challenge in resisting aggressive impulses and managing emotions (anger, frustration, and anxiety) and other negative feelings (Baumeister, Wright, and Carreon 2018). After an initial effort to self-regulate, one will be less motivated or less able to control him-/herself in tasks or other matters (Maranges et al. 2017). In the face of an interpersonal conflict, an individual will tend to perceive his/her work as more stressful than when he/she is not in a conflict, and such stress may lead to frustration and an inclination to stay away from social interest (Dierdorff and Ellington 2008). Such a condition depicts an excessive expenditure of cognitive resources from internal conflict. Thus, ego depletion theory (Baumeister et al. 1998) predicts that when an individual is in a state of high level of interpersonal conflict, his/her ego depletion will increase. Contrarily, in a state of no interpersonal conflict, an individual will tend to have a low level of ego depletion. Baumesiter, Wright, and Carreon (2018) supported such a prediction. Thus, the second hypothesis proposed is as follows:

H₂: Interpersonal conflict has a positive effect on ego depletion

The Effect of Ego Depletion on Judgment and Decision-Making (JDM) Quality

Workload pressure may lead to low level of audit quality (López and Peters 2012). JDM quality, as a determinant of audit quality, is indicated by intensity of review prior to accepting an initial hypothesis and caution in accepting explanation from client (Hurley 2019). According to the strength model based ego depletion theory by Baumeister (1998), ego depletion undermines auditor cognitive processing in the form of rational alternative hypothesis generation for decision-making. More specifically speaking, during a high level of ego depletion (e.g., due to an increased

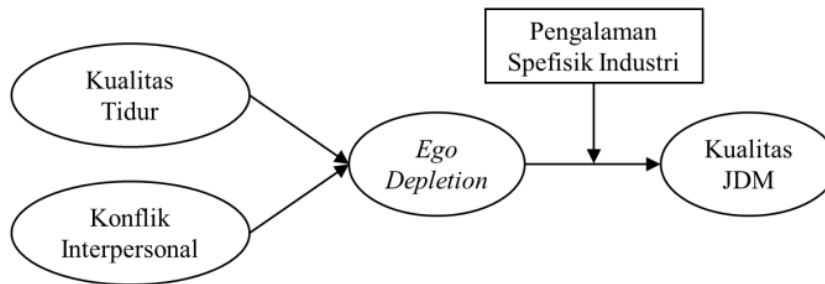


Figure 1
Research Conceptual Framework

level of multi-tasking during a busy season period), cognitive resources will decrease from use for self-control, and, in turn, the self-control ability in future tasks will decrease too, making the JDM quality drop (Hurley 2015, 2019). After experiencing multi-tasking, an auditor will tend to face a difficulty in identifying seeded errors, which is more apparent in conceptual errors than mechanical ones (Mullis and Hatfield 2018). Hence, the higher the ego depletion, the lower the auditor JDM quality, and vice versa. Previous works by Hurley (2015, 2019) and Mullis and Hatfield (2018) supported such a prediction. Thus, the third hypothesis proposed is as follows:

H3: Ego depletion has a negative effect on JDM (Judgment and Decision-Making) Quality

The Effect of Industry-specific Experience Moderation

Much experience in a specific task potentially reduces the resources required for self-control as an individual will be more able to perform tasks with automatic, heuristic-based processing than controlled, effort-intensive processing (Neal et al. 2013). In other words, 'accustomedness'-based performance is not dependent upon limited self-control resources necessary for such performance as it takes experience instead. Therefore, despite being ego-depleted, an auditor is predicted to remain capable of optimal judgment and decision-making. Specifically, if an auditor frequently handles an industry in correspondence to his/her area of expertise, the

effect of ego depletion on JDM quality will decline thanks to the sense of being accustomed. On the contrary, if he/she often moves from one industry to another in performing his/her auditing task, the JDM quality will potentially be disturbed due to a need for greater self-control. Thus, the fourth hypothesis proposed is as follows:

H4: Industry-specific experience moderates the effect of ego depletion and JDM (judgment and decision-making) quality

RESEARCH METHODS

Population and Sample

This research collected primary data via an online survey on external auditors working at public accounting firms in Indonesia. There were 4,000 auditors registered as members of the Indonesian Institute of Certified Public Accountants across the country. That figure consisted of 1,416 public accountants, 2,049 CPA non-public accountants, 346 CPAI junior members, 57 associate general member non-public accountants, 125 other general members, and 7 honor members (IAPI 2019). Sample in this research was extracted by convenience sampling. The criterion that must be fulfilled for the auditors to be eligible as respondents was that they had a minimum working experience of 6 (six) months to make sure that they had received sufficient audit training and experience with the public accountant firm, both theoretically and practically in the field. From the survey, 125 units of

questionnaire data were obtained, 4 of which were unusable due to incomplete data. Hence, there remained 121 data units to be further processed in this research. This size had fulfilled the minimum sample size recommended by Bartlett, Kotrlik, and Higgins (2001), that is, no smaller than 119 data units for a total of 4000 population ($\alpha = 0.05$).

33 The survey data were tested using the Partial Least Square (PLS) with the software SmartPLS 3.0. The use of PLS-SEM was deemed appropriate, considering that this research involved reflective latent variables whereas some of them were still infrequently examined in previous works, including, the effect of sleep quality, the moderating role of industry-specific experience, and JDM whose indicators were developed in this research in reference to Hurley's research (2019). Moreover, the sample size utilized in this research belonged to the recommended testing area with PLS-SEM for a high statistical power, that is, 30 to 100 data units (Hair et al. 2017; Hussein 2015). This research also employed a singular indicator for the variable industry-specific experience, which could only be accommodated by PLS-SEM (Hair et al. 2017; Sholihin and Ratmono 2013).

Aside from conducting identification and hypotheses testing based on online questionnaire survey data, this research also attempted to confirm the results from the survey through interviews with some auditors of various positions. The interview results are to be discussed in the additional analysis section.

Dependent Variables

The dependent variables in this research were ego depletion and judgment and decision-making (JDM) quality. Ego depletion, in this 22 also doubling as a mediator variable, is defined as the extent to which an individual perceives that he/she is fatigued mentally and psychologically from working. This variable was measured by three questions adopted from Baumeister, Wright, and Carreon (2018).

Modification was made to the timeframe in the questions, that is, from "in the last few hours" to "in the last few days," which indicates a longer time period. Hurly (2017) states that ego depletion can be an accumulation of several days' worth of ego depletion. This underlined the necessity of measuring ego depletion in a period of more than one day (between-days measurement). To capture the level of ego depletion in such a way, while keeping in mind that ego depletion was to be identified at one point in time, changing the timeframe would be necessary. Earlier research by Baumeister, Wright, and Carreon (2018) identified ego depletion on a continuous basis over a period of 14 days with objects including self-control and ego depletion in various aspects in daily life, unlimited to matters related to individuals' professions. Such a measurement method was a bit incompatible to this research's design. 32 us, to measure every indicator, a 10-point Likert scale from 1 = "not perceived at all" to 44 = "strongly perceived" was used. The higher the score the higher the level of ego depletion an auditor was experiencing. The level of ego depletion was derived from the sum score of all indicators.

JDM quality refers to how well an auditor performed his/her work according to professional standards. Operationally, JDM quality is an auditor's perceived consistency in keeping to the work principles under a condition in which pressure is present. This variable was measured with four indicators, which were specifically developed in this research on the basis of the explanation of the JDM quality hypothesis 2 development. JDM activities included persistence in collecting and judging audit proofs, problem-solving or problem pattern detection, confirmatory information processing, and skepticism (Hurley 2017). In other words, JDM activities existed throughout the auditing process.

The variable JDM quality was measured with four indicators, which were specifically developed in this research in reference the the explanation of the JDM

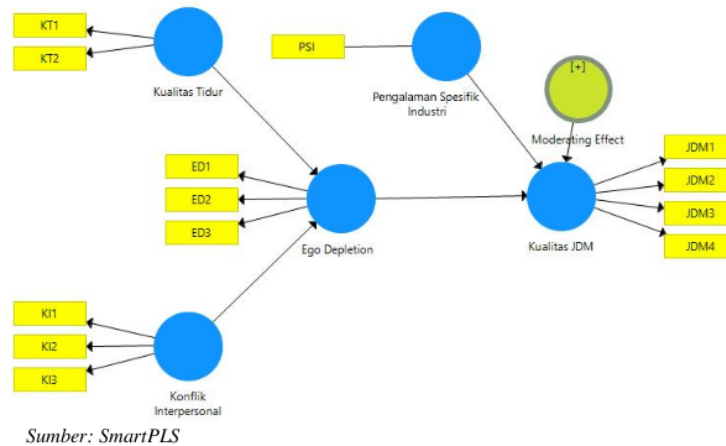


Figure 2
Conceptual Framework in PLS-SEM Notation

quality hypothesis development in Hurley's work (2019). The indicator statements indicated a low JDM quality. Hence, the stronger the respondents' agreement with the indicator statements the lower the auditor JDM quality. Hurley's research (2019) produced two main findings which showed JDM quality, namely, the ability to formulate hypothesis in audit (the ability to judge and recognize an audit proofs pattern; the ability to generate decision alternatives) and caution in accepting the audit proofs explanation provided by client (caution in accepting client's weak explanation; caution in trusting the audit proofs provided). The four indicators in the two main findings of the research were adopted in this research to measure auditor JDM quality. From the two main findings above, four questions were developed: how good the auditor quality was in judging and recognizing the audit proofs pattern; the auditor's perception on the quality of the ideas to make decisions throughout the audit process; perception on the auditor's ability to receive and understand information from client; and the auditor's level of trust in the audit documents provided by client. The variable score was obtained from the entire indicators, each of which

was measured with a 10-point Likert scale from 1 = "never" to 10 = "always."

Independent Variables

The independent variables in this research were sleep quality and interpersonal conflict. Sleep quality is defined as the auditor's length of sleep time. There were two indicators to measure this variable, namely, the length of sleep time on the previous day (Baumeister, Wright, and Carreo 2018) and the average length of sleep time over the last week (Hurley 2017). These two indicators were used to reduce bias from the cross-sectional time set effect. The longer the sleep time the higher the auditor's sleep quality. This research did not use perceived sleep quality measure as it contained bias in other behavioral research by Barnes et al. (2011).

Interpersonal conflict refers to a perceived level of an unfavorable relationship condition between an auditor and people in his/her surroundings, such as, family members, peers, and coworkers. The size of this variable was the responses to the three indicators of Baumeister, Wright, and Carreon (2018) measured by a 10-point Likert scale from 1 = "nonexistent" to 10 = "abundant." The higher the variable value the higher the level of interpersonal conflict the auditor was experiencing.

Table 1
Respondents' Profile

	Frequency
Gender	
Male	64
Female	57
Latest Education	
S1 (Bachelor's Degree)	98
S2 (Master's Degree)	22
S3 (Doctorate Degree)	1
Auditor's Position	
Auditor	111
Manager and Partner	10
Public Accounting Firm	
Big Four	17
Non-Big Four	104
Certification	
Certified Public Accountant (CPA)	15
Chartered Accountant (CA)	15
Certified PSAK (CPSAK)	2
Certified Tax Consultant (BKP)	4
Others	13
Non-certified	72
Salary	
< 3,000,000	15
3,000,001–4,500,000	15
4,500,001–6,000,000	26
6,000,001–7,500,000	33
7,500,001–9,000,000	20
> 9,000,000	12

Data source: Processed primary data

Moderator Variable

The variable serving as a moderator in this research was industry-specific experience. This variable is defined as the perception on the auditor's intensity in handling a company engaged in his/her area of expertise. This research measured industry-specific experience with a single question (single-item construct) on frequency working in an industry compatible with the auditor's audit expertise. The frequency measure represented the level of 'accustomedness,' which indicated the level of heuristic and automatic information processing in decision-making (Neal et al. 2013). An auditor with high-frequency usage of expertise at auditing clients engaged in his/her specific area of expertise would have greater industry-specific experience. On the contrary, lower frequency suggests that the auditor's specific expertise was not used maximally, hence increasing the potential of low audit decision quality. In this research, a 10-point Likert scale from 1

= "never" to 10 = "always" was used. Before deciding on the response score, the auditor would first answer the question of industry of his/her expertise. The greater the response score the greater the auditor's experience in applying his/her specific expertise in the audit task.

Figure 2 demonstrates the entirety of the research model in PLS-SEM notation. All in all, the conceptual framework is composed of two independent variables, one is mediator variable and another dependent variable, and one moderator variable.

RESEARCH RESULTS AND DISCUSSION

Respondents' Demography

Table 1 shows the respondents' demography. Sixty-four respondents (52.89%) were male, and 57 were female (47.11%). Ninety-eight respondents (80.99%) completed S1 program, 22

(18.18%) S2 program, and 1 (0.83%) S3 program. The respondents were in the 22–57 age range with an average work experience of 4 years and a maximum work experience of 30 years. With respect to position, the respondents were dominated by junior auditors (55 respondents, 45.45%) and senior auditors (56 respondents, 46.28%), while the rest were managers (3 respondents, 2.48%) and partners (7 respondents, 5.79%). Hence, there were 111 auditors in total (91.73%) and 10 managers and partners (8.27%).

Of all the auditors who served as this research's respondents, 2 were PSAK Certified (CPSAK), 15 were Certified Public Accountants (CPA), 15 were Chartered Accountants (CA), and 72 (59.50%) were non-certified. Most of the respondents had incomes in the range Rp6,000,000–Rp7,500,000, which were received in variation according to their position. These certification and income factors were not found to have an influence on ego depletion.

Validity and Reliability Tests

This research used the PLS-SEM approach to test the validity and reliability of the latent variables and the research hypotheses. The questionnaires distributed to the auditors measured perceptions on the determinants of ego depletion and tested the effect of ego depletion on JDM quality. This research's data used perceptions as basis, making the PLS-SEM approach the best option in terms of performance of behavior data measurement (Hussein 2015). Two stages of testing were involved during the data analysis process, namely, the analysis of the outer model (measurement model) and the analysis of the inner model (structural model).

In the measurement model stage, validity and reliability testing was conducted on each indicator making up the latent variables or constructs of the research, including the testing of convergent validity and discriminant validity. The convergent validity test results presented in Table 2, as interpreted with AVE (average

variance extracted) values, on all variables showed values greater than 0.50, and each indicator of the latent variables showed a factor loading of more than 0.70 (Latan and Ghazali 2013). Furthermore, the discriminant validity test results showed that the cross-loading value of each indicator was greater than 0.70 and that the cross-loading value of one latent variable was greater than those of the other latent variables. Hence, it was concluded that all the indicator paths were valid.

The measurement model was then used to measure the reliability of the indicators and latent variables of the research through Cronbach's alpha and composite reliability values. Table 2 shows that the Cronbach's alpha and composite reliability values of each latent variable were above 0.70; hence, the research data used were declared reliable. However, the results of the measurement model in Table 2 showed that one of the JDM quality indicators, JDM2, had a factor loading of less than 0.70, namely, 0.543. According to Latan and Ghazali (2013), the threshold for factor loading is 0.7; hence, the indicator JDM2 was removed and later a retest was performed on the measurement model. The second test results showed that all the factor loading values had met the minimum criterion; hence, the research data used were declared reliable. Besides, Table 2 indicates that for the variable PSI, only one of the two indicators used was revealed. This is because the first PSI indicator was an open statement for eliciting data on types of industries the respondents were accustomed to audit, so this indicator was used only as a basis for answering the second PSI indicator.

Research Results and Discussion

The hypotheses testing used the structural model. In this stage, assessment was also conducted on the model quality through R^2 and adjusted R^2 . The test results showed that the R^2 and adjusted R^2 values of ego depletion were 42.1% and 41.2%, respectively, meaning that 42.1% of ego depletion variance was explainable by the

Table 2
Measurement Model and Construct Indicator

Variables and Indicators	Code	Initial Factor Loading	Final Factor Loading	AVE	Cronbach's alpha	Composite Reliability
Ego Depletion (Baumeister, Wright, and Carreon 2018)	ED			0.858	0.917	0.948
Within the last few days, did you feel that it was difficult to manage your thoughts even for trivial matters?	ED1	0.933	0.934			
Within the last few days, did you feel that some things have disturbed you more than usual?	ED2	0.955	0.955			
Within the last few days, did you feel that you were deprived of mental and emotional energy (fatigued mentally and emotionally) more than usual?	ED3	0.848	0.848			
Judgement and Decision-Making (JDM) Quality (developed based on Hurley 2019)	JDM			0.631	0.727	0.836
Of late, you have become less adept at judging and recognizing audit proofs pattern.	JDM1	0.860	0.883			
Of late, you were easier to trust the first option that came up your mind and/or readily executable to generate a decision.	JDM2	0.543	-			
Of late, you were easier to accept your client's explanation although it was weak.	JDM3	0.724	0.729			
Of late, your were easier to trust the audit documents provided by your client.	JDM4	0.777	0.762			
Sleep Quality	KT			0.787	0.735	0.880
How long were you sleeping last night? (Baumeister, Wright, and Carreon 2018)	KT1	0.924	0.924			
How long were you sleeping on average within the last week? (Hurley 2017)	KT2	0.848	0.848			
Interpersonal Conflict (Baumeister, Wright, and Carreon, 2018)	KI			0.732	0.818	0.891
Of late, how many people in your life were debating with you over a matter?	KI1	0.881	0.881			
Of late, how many people in your life made you feel restless?	KI2	0.906	0.906			
Of late, how many people in your life had hurt your feelings?	KI3	0.774	0.774			
Industry-specific Experience	PSI			1.000	1.000	1.000
In which industry are you working as auditor?	-	-	-			
Have you been dealing with clients in your specific industry thus far?	PSI	1.000	1.000			

Data source: Processed primary data

antecedent variables, while the remaining 57.9% by other variables unexplored by this research's model. The two R² values for the variable JDM quality each was 20.4% and 19.1%, meaning that 20.4% of JDM variance was explainable by ego depletion, while the remaining 79.6% by other variables unexplored by this research's model.

20
The Effect of Sleep Quality on Ego Depletion

20
 This research predicted that sleep quality (H1) and interpersonal conflict (H2) are determinants of ego depletion. H1 and H2 were tested under the structural model through a bootstrapping analysis. H1 predicted that sleep quality has a negative effect on ego depletion. This suggests that an increase in sleep quality should be followed by a decrease in auditor's ego de

Table 3
PLS Test Results of Between-variables Relationship (All Sample)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	t-statistics (O/STDEV)	p-values	Conclusion
Sleep Quality → Ego Depletion	-0.064	-0.073	0.070	0.922	0.357	H1 unsupported
Interpersonal Conflict → Ego Depletion	0.638	0.641	0.065	9.753	0.000	H2 supported
Ego Depletion → Judgment and Decision-making (JDM) Quality	0.452	0.462	0.068	6.645	0.000	H3 supported
Ego Depletion → Industry-specific Experience → Judgment and Decision-making (JDM) Quality	-0.189	-0.190	0.096	1.977	0.049	H4 supported

Data source: Processed secondary data

effect on ego depletion. This suggests that an increase in sleep quality should be followed by a decrease in auditor's ego depletion. Ego depletion is a temporary state of lack of cognitive resources to self-control caused by physical or psychological fatigue (Baumeister et al. 2007). H1 testing results in Table 3 showed that the relationship between sleep quality and ego depletion was insignificant with a t-statistic of 0.922 (less than 1.96) and $p = 0.357$, which means that H1 was unsupported. These results are at odds with Barnes et al.'s findings (2011) on the relationship between sleep quality and ego depletion, which stated that sleep is a critical determinant of individual cognitive self-control. They are also in contrast to the findings by Baumeister, Wright, and Carreon (2018) and Hurley (2015), which stated that sleep quality improvement is associated with decreased ego depletion.

According to ego depletion theory (Baumeister et al. 1998; Hurley 2019), to perform a work, it takes an auditor sizeable energy resources. An auditor is at a high risk of experiencing ego depletion, particularly during a busy season, due to lack of sleep and rest time (Barber et al. 2013; Hurley 2015). During a busy season, an auditor's sleep time will be reduced, leaving too little time to restore the depleted self-control resources (Hurley 2015). Workload in an extreme amount an auditor is assigned with will lead to an even

greater reduction of self-control resources which are supposed to be recoverable by mere sleep and rest, eventually causing the self-control resources level to drop even further for him/her to start the next day (Hurley 2017). Sleep is a critical activity to recover and replenish the used up cognitive resources (Baumeister et al. 2007; Vohs et al. 2011). Hurley (2017) states that when sleep and rest are insufficient to recover the self-control resources, an individual will be constantly in a depletion state. Failure in mental resources restoration as a result of lack of sleep time may cause ego depletion in an individual at work and in turn cause an alteration to his/her behavioral pattern (Barnes and Hollenbeck 2009; Yam et al. 2014).

Deviating from the findings above, this research demonstrated that auditor's sleep quality did not affect ego depletion. This finding can be explained by Zhang et al.'s research findings (2017), which stated that external factors of ego depletion are more likely to produce a more lax moral assessment than its internal factors, for example, sleep quality. How good an individual's sleep quality is determined by him-/herself. There are times when one's low sleep quality does not indicate lost or deprived cognitive resources. Thus, this research did not find low level of auditor's sleep quality influential to ego depletion.

The Effect of Interpersonal Conflict on Ego Depletion

H2 predicted that interpersonal conflict has a positive effect on ego depletion. The low amount of resources one owns for self-control resulted from interpersonal conflict will make it harder to perform future self-control task (Hofmann et al. 2018). Hence, it was predicted that the higher the interpersonal conflict an auditor is in the higher the ego depletion. The H2 testing results provided in Table 3 showed that interpersonal conflict had a positive effect on ego depletion. The t-statistic yielded from the hypothesis testing was 9.753 (greater than 1.96), and $p = 0.000$, meaning that H2 was supported.

Some indicators included in the questionnaire were used to test whether interpersonal conflict was capable of affecting ego depletion. The auditors were given a question of whether recently they were experiencing any interpersonal conflict. This is because interpersonal conflict, as assumed by Baumeister, Wright, and Carreon (2018), has a long-lasting psychological effect; hence, one might classify if he/she was not facing any conflict just because he/she had no argument for what he/she was feeling. Interpersonal conflict shuts one's ability to resist aggressive impulses and manage emotions (anger, frustration, and anxiety) and impacts in various other ways, forcing him/her to expend even more cognitive resources (Baumesiter, Wright, and Carreon 2018). The considerable amount of resources required to face an interpersonal conflict adds to his/her fatigue from working as it is analogous with energy depletion (Dierdorff and Ellington 2008; Shaukat et al. 2017). This is the reason why an individual in an interpersonal conflict has poor self-control and is bound to suffer ego depletion. An individual will tend to perceive his/her work as more stressful than when he/she is not in a conflict, and such stress may lead to frustration and an inclination to stay away from social environment (Dierdorff and Ellington 2008). By and large, the H2 testing result is consistent with Baumeister,

Wright, and Carreon's finding (2018) and the strength model of ego depletion, that is, interpersonal conflict is a strong predictor of ego depletion.

The Effect of Ego Depletion on Judgment and Decision-Making (JDM) Quality

After investigating the effects of sleep quality and interpersonal conflict on ego depletion, another test was then conducted to find out the effect of ego depletion on JDM quality in auditors. An extremely high workload quantity and pressure on auditors may lead to low audit quality (López dan Peters 2012). This is unfavorable to auditors, given that audit quality is a critical point in audit process. H3 predicted that ego depletion has a negative effect on auditor JDM quality, meaning that the greater the ego depletion the lower the JDM quality should be generated. The hypothesis testing results presented in Table 3 showed that the t-statistic generated was 6.645 (greater than 1.96) and $p = 0.000$, supporting H3.

Auditors suffering a high level of ego depletion exhibited worse complex cognitive processing than those who did not (Hurley 2019). Under such a condition, auditors were deemed less able to generate rational alternative hypotheses when offering explanations on the problems faced by the clients (Hurley 2019), meaning that the JDM quality produced by the auditors fell when ego depletion rose. Besides, ego depletion could increase auditors' willingness to accept the clients' explanation through presentation of financial statements without accurate supporting proofs and without judgment of the clients' provided explanation to make a better sense of it (Hurley 2019; Baumeister et al. 1998). Nonetheless, ego depletion made the auditors have a low level of confidence in their task performance although it did not affect the auditors' reasonable judgment of the explanation of clients with presumed fraud (Hurley 2019).

Ego depletion hindered the process of proofs collection and evaluation, application of professional skepticism, complex

processing, and other inputs by the auditors, leading to a decreased JDM quality (Hurley 2015). To display high-quality task performance, the auditors often needed self-control from a fairly large amount of resources. This was true for the auditors especially during a busy season. During this period, the auditors experienced ego depletion on the previous day and started a new day with the depletion effect remaining high, being at risk of suffering worse ego depletion (Hurley 2017). A growing accumulation of ego depletion from the busy season led to degraded professional quality of the auditors. Hurley (2015) confirmed that the sweet accumulation of ego depletion would lead to reduced judgment and decision-making (JDM) quality by auditors in upcoming tasks in the future. In general, the results of the statistical test on H3 are consistent with the findings by Hurley (2015, 2019) and Mullis and Hatfield (2018) and the strength model of ego depletion.

The Moderating Effect of Industry-specific Experience

H4 predicted the moderating effect of industry-specific experience on the negative effect of ego depletion on JDM quality. It was proposed that when an auditor handled a client in a specific industry to which he/she was accustomed to, the temporary state of ego depletion could not undermine his/her JDM quality. In other words, industry-specific experience was presumed to diminish the negative relationship between ego depletion and JDM. The H4 test results in Table 3 showed a t-statistic value of 1.977 (greater than 1.96) and $p = 0.049$, which supported H4. The coefficient yielded, as shown in Table 3, was negative. This finding supported the predicted moderating role of industry-specific experience which undermined the effect of ego depletion on JDM quality.

The results of the H4 testing confirmed the prediction that when the auditors dealt with clients in specific industries to which they were accustomed to, the JDM

quality generated did not necessarily become lower due to the ego depletion they suffered from. This research diverged from Hurley's (2017; 2019), which failed to find any proof of declining level of ego depletion even after the auditors had acquired experience or performance specific to their tasks. However, it agreed with Neal et al. (2013) that performance did not decline due to ego depletion when the individual suffering from it performed a task compatible with the resources and specific expertise of which he/she was in possession. The performance quality produced with a high level of 'accustomedness' did not depend on limited self-control resources as experience had a greater role in assisting the task completion. In other words, the auditors' JDM quality did not tend to decline even when they suffered from ego depletion if they had considerable experience in a certain industry in which they performed their tasks. Experience helped stabilize the self-control ability against intervention (ego depletion) potentially arising during the task completion. Hence, industry-specific experience was found to weaken the negative effect of ego depletion on JDM quality.

Additional Analysis

Additional testing was conducted by removing managers and partners from the sample, leaving only auditors (junior and senior). This testing was aimed to find out whether there was any difference in the JDM quality generated. Contessotto et al. (2019) describe the difference in task between partners, managers, and auditors. Whereas partners have limited involvement in daily audit planning and execution as they delegate the task to managers and auditors and they themselves hold the role of authority to make major decisions and focus on liaison with clients, managers have a direct role in selecting the audit team and participate in the making of major decisions throughout the audit process. Meanwhile, auditors are in charge of conducting the audit process, making initial planning, identifying audit engagement

Table 4
PLS Test Results of the Between-variables Relationship (Only Auditor Data)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	t-statistics (O/STDEV)	p-values	Conclusion
Sleep Quality → Ego Depletion	-0.091	-0.091	0.070	1.297	0.195	H1 unsupported
Interpersonal Conflict → Ego Depletion	0.608	0.623	0.071	8.54	0.000	H2 supported
Ego Depletion → Judgment and Decision-making (JDM) Quality	0.373	0.389	0.091	4.092	0.000	H3 supported
Ego Depletion Industry-specific Experience → Judgment and Decision-making (JDM) Quality	-0.184	-0.181	0.112	1.647	0.100	H4 unsupported

Data source: Processed primary data

risks, developing audit programs, and making initial decisions on audit issues and proofs requiring further investigation. In other words, auditors play a role at the audit operating level, while managers and partners do at leadership level (Cameran et al. 2017). Hence, it was deemed necessary to compare the two tests' data, including those which covered managers and partners and those which did not.

Table 4 presents the testing results on the auditor data. The results of the additional testing strengthened the proof that ego depletion mediated the effect of interpersonal conflict on JDM quality. Table 4 also shows that industry-specific experience did not moderate the relationship between ego depletion and JDM quality. This finding is at odds with the results of the whole sample data testing which previously had identified the moderating role of industry-specific experience in the relationship between ego depletion and JDM quality.

The difference in the moderating effect test results between the sample which included managers and partners and one which did not arose from the difference in characteristics between the auditor group (auditors-in-charge) and managers and partners. Among them, workload and work type discrepancy between auditors and managers and partners as described earlier were potential factors. The difference

between managers' and partners' tasks and responsibilities which lied at the leadership level and those of auditors at the operational level has an implication that their direct involvements at the technical aspect of audit process also differed. At the leadership level Cameron et al. (2017) discovered that the longer the audit hours spent by managers and partners in the audit team, the lower the audit quality produced. This means that managers' and partners' involvements along the audit process were more limited than those of senior and junior auditors. This was supported by this research's data which reflected that managers' and partners' level of industry-specific experience ($\bar{x} = 4.62$) was lower than auditors' ($\bar{x} = 6.70$) due to a wider scope of client handling the managers and partners had to deal with, in which case they had to handle several clients at the same time.

On the other hand, the level of industry-specific experience in the auditor group (senior auditors and junior auditors) could relatively be dependent upon each public accounting firm, and as a result, the experience level of senior auditors did not necessarily differ from that of junior auditors. This finding proved that the industry-specific experience level of senior auditors ($\bar{x} = 7.02$) did not diverge too far from that of junior auditors ($\bar{x} = 6.38$) as both functioned at the audit operating level.

Based on the findings from this additional analysis, there is a chance for future research to confirm the moderating role of industry-specific experience with some consideration for characteristic factors attached to each auditor position.

Aside from additional analysis which excluded managers and partners, in order to confirm the quantitative survey results, interviews were carried out to explore deeper the conditions the auditors were under in relation to ego depletion. The results of the interviews were hoped to support the findings about ego depletion being a condition auditors were experiencing, factors causing such a mental condition, and the impacts resulted. Interviews were conducted with eight respondents, namely, three junior auditors, three senior auditors, and two partners. Of all the respondents, one junior auditor was working at a big-four public accounting firm, while the rest were working at internationally affiliated non-big-four public accounting firms. Written media were used during the interviews with the respondents, who had previously completed the online survey. The questions posed explored the following points:

1. Experience and time suffering ego depletion.
2. The effect of sleep time on emotional and psychological conditions.
3. The effect of interpersonal relationship condition on emotional and psychological conditions.
4. The effect of emotional and psychological conditions on attitude and behavior in making judgment.
5. Efforts to mitigate the negative effect of emotional and psychological fatigue on work.

The first question was asked to gain information on experience and time suffering ego depletion. The auditors revealed that they were experiencing emotional and psychological fatigue especially during a peak season (busy season) period. This was because during such a period auditors had increased

workload and reduced rest time. The industries where they were engaged that varied from one client to another exacerbated the exhaustion as different planning and execution efforts would be needed. Difficulties faced to establish a cooperation with the client during the audit process, like the difficulty asking for audit proofs, became a factor that was responsible for this ego depletion condition. Such was true for the auditors, junior and senior. Partners, on the other hand, revealed that they tended not to feel such a situation any more as their task had moved up to the strategical level. This supported the evidence that ego depletion was a condition experienced by nearly all auditors.

The second question sought to elicit information regarding the auditors' perception on sleep time sufficiency as an important factor that influenced their emotional and psychological conditions over the audit process. The survey results confirmed that sleep time was a cause for emotional and psychological fatigue. This effect was explained by the difficulty focusing and thinking, in which case it would take a longer time to complete either task. Both junior and senior auditors experienced this condition. Such a response slightly strayed away from the quantitative analysis results, which stated that sleep quality did not affect ego depletion. The reason behind this gap could be that every individual had different physical strength; some were able to survive with short sleep time, and some other were not. However, partners expressed an opposite response: the reduction in sleep time for work became a source of new energy for the next day if the task they were responsible for was completed, instead. This indicates that individual physical strength and level of task completion could potentially become factors explaining the effect of sleep time on ego depletion.

The third question was included to find out to which extent the interpersonal relationship the auditors were engaged in would influence their emotional conditions. Irrespective of the requirement for one to be

professional, the auditors agreed that the presence of an interpersonal problem would still potentially become a source of disturbance to their concentration at work. This was indicated by the auditors' response, from junior auditors to partners. Such a response supported the statistical finding on the effect of interpersonal conflict on ego depletion. Yet, given that focus and concentration were highly required for their work, the auditors explained that they tended to settle any of their interpersonal conflicts quickly and immediately to prevent it from leaving a negative impact on their emotional and psychological conditions.

The fourth question explored the magnificance of the effect of emotional and psychological conditions on the auditors' JDM quality. Responding to this question, the auditors tended to disagree with the fact that one's poor condition could be followed by degradation in work attitude and behavior. This result is inconsistent with the quantitative survey results. During the interviews, the auditors unveiled that they would attempt to avoid inaccuracy in work from emotional and psychological fatigue by taking a short break time before making a decision. This response was interpreted as the auditors' attempt to keep their credibility as invaluable professionals, regardless of the fact that the quantitative survey had confirmed a negative relationship between ego depletion and JDM quality. Partners also maintained that even in an exhausted state, performing work in accordance with the rules remained a principle one must observe. To evade the negative effect of ego depletion, the partners would develop a priority scale for decision-making, that is, important and urgent decisions should take precedence over the rest.

The last question was to figure out the auditors' ability to cope with emotional and psychological problems when the audit process was underway. Responses to this question were hoped to add an insight into efforts to cope with fatigue so that it would not influence the auditors' work. At large,

the auditors shared how they kept their consistency in maintaining their JDM quality, that is, through self-recharge, including having sufficient sleep time over the weekend, communicating with closest ones, sparing time for pursuing hobbies, taking spiritual approaches, trying not to complain (savoring the process) to avoid stress, among others. Besides, they would also devise a work priority scale and build a solid teamwork to achieve effectiveness. Those efforts were intended to mitigate or minimize the impacts of physical conditions and interpersonal conflict on ego depletion and JDM quality. This finding served a preliminary support for Baumeister et al.'s concept (2007) that the harmful effect of ego depletion can be avoided by way of humor, laughter, or other positive emotions, cash incentive, intention to do something, and social purposes such as the desire to help others. Positive emotions and mood can combat ego depletion (Tice et al. 2007; Baumeister 2002). This finding also agrees with the existant strength model of ego depletion that when experiencing ego depletion, one's body still has energy, but in a state of being exhausted, so he/she must try to reserve the remaining energy. He/she can still work well, however, if he/she receives enough motivation (Baumeister et al. 2018). This finding serves as a basis for further research.

CONCLUSION

Ego depletion examination on auditors becomes necessary given that the work they are engaged in is teeming with pressure. Most previous studies on the ego depletion topic used experimental methods. This research sought to provide findings directly based on the real condition auditors were in through a survey. It aimed to examine the effect of sleep quality and interpersonal conflict in auditors on ego depletion. A further investigation was conducted on the effect of ego depletion on judgment and decision-making (JDM)

quality as well as the moderating role of industry-specific experience.

From the survey on external auditors in Indonesia, a proof that one of the factors arising in the auditor environment capable of disturbing performance through ego depletion, interpersonal conflict, was acquired. However, sleep quality was not found as influencing the level of ego depletion. Another finding agreed with that of previous research, that is, the significant increase in the level of ego depletion would impair auditor JDM quality. This was manifested in the lowered ability to generate rational decision alternatives, increased passivity, lowered confidence in task performance, and status quo acceptance of the auditors (Hurley 2019). It was also discovered that industry-specific experience diminished the negative effect of ego depletion on JDM quality. However, a discrepancy arose (no moderating role) when testing was conducted only on auditor data (exclusive of managers and partners). Such a deviance could be caused by the varied workloads and work types between the leadership level (managers and partners) and the operating level (junior auditors and senior auditors) within the audit team. Future research is expected to study in a greater depth this moderating role.

In addition to the quantitative survey data, this research strengthened the analysis results through interviews with some auditor respondents of various positions. The results indicated that ego depletion, in fact, was experienced by nearly all auditors, one of the potential causes for which was interpersonal conflict, especially when the workload grew heavier. But to maintain their consistency in complying with the code of ethics and in their JDM quality, the auditors made ⁴personal and collective (peer) efforts to mitigate the negative impacts of ego depletion.

This research's findings generated three implications. First, theoretically ²⁹speaking, this research is in support of the strength model of ego depletion, that self-control in an individual is required for

decision-making and choosing which behavior to perform, is determined by the amount of cognitive resources owned which can be depleted at any time, is owned by every individual at various proportions, has its current level determining the success of future self-control, and takes a fairly large amount of resources and reduces the self-control resources for future tasks. Second, practically speaking, this research offers an insight to practitioners that employees with excessive workload and pressure are susceptible to increased ego depletion, leading to unethical deeds and harm to the company. With this research, practitioners are hoped to grasp the situation that may occur in conditions that can potentially raise ego depletion and consider efforts to prevent possible unethical attitude. Deliberation with peers and individual efforts are among the recommendations to prevent the negative effect of ego depletion. Third, this research produced another practical implication that it is important to maintain the audit team division system based on industry specification, given the empirical finding that it is effective in maintaining the JDM quality amidst cognitive resources depletion.

This research also came with some limitations. First, this research focused on the examination of perceptions stated by the auditors in person. Hence, this research was not free from self-reported bias. In general, self-reporting will lead to assignment of good, and near perfect, points. To reduce such a problem, scoring indicators with fairly large scale intervals were used so that the respondents could provide more accurate responses based on the conditions they were facing. However, this limitation provides future research with an opportunity to adopt different methods like direct interview and field study to acquire results free from bias and representative of the real situations faced by auditors.

Second, ego depletion is more frequently experienced by auditors during a busy season (Hurley 2015). This research did not sufficiently stress this condition as

it focused more on the causes of ego depletion under general work situations rather than in a specific season. Interpersonal conflict, which served as an ego depletion antecedent, did not only happen during a busy season, but at any time. Future research can follow up this study with a stress on the research period during a busy season, allowing for the identification of other antecedents that influence ego depletion and eventually degrade JDM quality.

Third, this research employed a relative small sample size in comparison to the public accountant population across Indonesia. Despite that, the quantity of the data collected here had met the minimum sample size requirement for the total population. Still, a larger sample size would be preferable to improve the generalizability of this study's results. Lastly, this study used a questionnaire never before used in Indonesia, hence necessitating further testing to infer the validity and reliability of the instrument. Therefore, a future work is expected to retest the results obtained here based on that instrument.

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