

Original Research Article

Artikel Penelitian Orisinal

An Equal Match:
Simultaneous vs. Sequential Methods in Face Testimony Accuracy
[Setara:
Metode *Simultaneous* vs. *Sequential* Dalam Keakuratan Kesaksian Wajah]

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The number of crimes in Indonesia has increased since 2014. In each crime, there are usually witnesses who testify. Witnesses are important in every process, starting from investigation, prosecution, and trial. There are two methods commonly used in the process of identifying facial testimony, namely the simultaneous method and the sequential method. This study is a quantitative experimental research study that aims to determine differences in the accuracy of testimony using the simultaneous and sequential methods, with undergraduate students as participants. The results of the cross-tabulation of the accuracy of testimony using the simultaneous and sequential methods ($p = .335$; $p > .05$) showed that the accuracy of testimony was not affected. Correlation tests were also performed on the accuracy of testimony and confidence using the point-biserial correlation test. Correlation test results ($r = .051$; $p > .05$) show that witness' confidence is not related to the accuracy of testimony.

Keywords: testimony, accuracy of testimony, simultaneous method, sequential method

Jumlah tindak kejahatan di Indonesia meningkat sejak tahun 2014. Pada tiap tindak kejahatan biasanya terdapat saksi yang memberikan kesaksian. Saksi adalah penting dalam setiap proses, mulai dari penyidikan, penuntutan, dan pengadilan. Terdapat dua metode yang umum digunakan saat proses identifikasi kesaksian wajah, yaitu metode *simultaneous* dan metode *sequential*. Studi ini merupakan studi penelitian kuantitatif eksperimen yang bertujuan untuk mengetahui perbedaan keakuratan kesaksian dengan metode *simultaneous* dan metode *sequential*, dengan partisipan mahasiswa dan mahasiswi program sarjana. Hasil tabulasi silang keakuratan kesaksian dengan metode *simultaneous* dan metode *sequential* ($p = 0,335$; $p > 0,05$) menunjukkan bahwa keakuratan kesaksian tidak dipengaruhi oleh kedua metode. Uji korelasi juga dilakukan terhadap keakuratan kesaksian dan keyakinan diri menggunakan uji korelasi poin-biserial. Hasil uji korelasi ($r = 0,051$; $p > 0,05$) menunjukkan bahwa keyakinan diri saksi mata tidak terkait dengan keakuratan kesaksian.

Kata kunci: kesaksian, keakuratan kesaksian, metode *simultaneous*, metode *sequential*

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According to data from *Badan Pusat Statistik Indonesia* (Statistics Indonesia, 2017; 2019), it is known that from 2014 to 2018, the number of crimes has increased. Data from *Badan Pusat Statistik Indonesia* (Statistics Indonesia, 2017) also noted that in 2016, the number of crimes reached a very high point, reaching 357,197 cases for general crimes in Indonesia. In every crime that occurs, witnesses are usually there to provide information on what is heard, seen, and felt. Witnesses are very important in assisting the process of investigation, prosecution, and trial. Article 1 Point 26 of the Constitution Book of Procedural Crime Law (Mahkamah Agung Republik Indonesia [The Supreme Court of the Republic of Indonesia, 1981]) explains that a witness is an individual who provides information for the purposes of investigation, prosecution, and trial about what is heard, seen, and felt by themselves in a criminal case. According to Article 1 Point 17 of the Constitution Book of Procedural Crime Law, testimony is a means of evidence to settle a criminal case, in the form of information about what was heard, seen, and experienced by explaining the reasons for what is known (Mahkamah Agung Republik Indonesia [The Supreme Court of the Republic of Indonesia, 1981]).

Witnesses are described as an important part and the most important evidence in resolving criminal cases (Heryani, 2011). Witness testimony is very influential in the judicial process and decision-making, so accuracy is the most important thing. Wells and Loftus (2003) explain that witness testimony can be evidence that is interconnected with other evidence, such as fingerprints, blood, and other physical evidence. It should also be understood that memory is the same as physical evidence that can be lost, contaminated, and even reconstruct the actual incident (Wells & Loftus, 2003). Carlson (2011) added that the percentage of mistaken identification of the perpetrators of crimes committed by witnesses was 75% in a case.

Wells and Loftus (2003) categorize eyewitnesses into two types, namely: (1) face witnesses; and (2) event witnesses. Face witnesses are eyewitnesses who testify to the characteristics of the perpetrator specifically on the face, while event witnesses are testimony to events that have been seen and experienced (Wells & Loftus, 2003). Seale-Carlisle et al. (2019) explained that there are

Menurut data dari Badan Pusat Statistik Indonesia (Statistics Indonesia, 2017; 2019), diketahui bahwa mulai tahun 2014 hingga tahun 2018, jumlah tindak kejahatan mengalami kenaikan. Data dari Badan Pusat Statistik Indonesia (Statistics Indonesia, 2017) juga mencatat bahwa pada tahun 2016, jumlah tindak kejahatan mencapai titik yang sangat tinggi, yaitu hingga mencapai 357.197 kasus untuk tindak kejahatan umum di Indonesia. Pada tiap tindak kejahatan yang terjadi, saksi biasanya ada untuk menyediakan informasi atas apa yang didengar, dilihat, dan dirasakan. Saksi sangatlah penting dalam membantu proses penyidikan, penuntutan, hingga peradilan. Kitab Undang-Undang Hukum Acara Pidana (KUHAP) Pasal 1 Butir 26 (Mahkamah Agung Republik Indonesia [The Supreme Court of the Republic of Indonesia, 1981]) menerangkan bahwa saksi merupakan individu yang memberikan keterangan guna kepentingan penyidikan, penuntutan, dan peradilan tentang yang didengar, dilihat, dan dirasakan sendiri dalam perkara pidana. Menurut Kitab Undang-Undang Hukum Acara Pidana (KUHAP) Pasal 1 Butir 17, keterangan kesaksian merupakan suatu alat bukti untuk menyelesaikan suatu perkara pidana, berupa keterangan tentang yang didengar, dilihat, dan dialami dengan menjelaskan alasan dari yang diketahui (Mahkamah Agung Republik Indonesia [The Supreme Court of the Republic of Indonesia, 1981]).

Saksi digambarkan sebagai suatu bagian yang penting dan merupakan alat bukti paling utama dalam menyelesaikan tindak perkara pidana (Heryani, 2011). Keterangan saksi sangat berpengaruh pada proses peradilan dan pengambilan keputusan, sehingga keakuratan merupakan hal terpenting. Wells dan Loftus (2003) menjelaskan bahwa keterangan saksi dapat menjadi bukti yang saling bersambung dengan bukti lainnya, seperti sidik jari, darah, hingga bukti fisik lainnya. Perlu dipahami juga bahwa ingatan sama halnya dengan bukti fisik yang dapat hilang, terkontaminasi, bahkan merekonstruksi kejadian sesungguhnya (Wells & Loftus, 2003). Carlson (2011) menambahkan bahwa persentase kesalahan identifikasi terhadap pelaku tindak kejahatan yang dilakukan oleh saksi sebesar 75% dalam sebuah kasus.

Wells dan Loftus (2003) membagi saksi mata menjadi dua jenis, yaitu: (1) saksi mata wajah; dan (2) saksi mata peristiwa. Saksi mata wajah merupakan saksi mata yang bersaksi atas ciri pelaku secara khusus yang ada di wajah, sedangkan saksi mata peristiwa merupakan kesaksian atas peristiwa yang dilihat dan dialami (Wells & Loftus, 2003). Seale-Carlisle et al.

several procedures utilized by various countries to assist the face testimony process. The United States of America utilizes the simultaneous method as a method of identifying perpetrators by face witnesses. The United Kingdom utilizes the sequential method as a method of identifying perpetrators (Seale-Carlisle et al., 2019).

The simultaneous method utilized in the United States of America is described by Seale-Carlisle et al. (2019) by displaying a photo of the alleged perpetrator simultaneously in front of face witnesses. Seale-Carlisle et al. (2019) defines the sequential method used in the United Kingdom by displaying a video of the perpetrator's face alternately, and face witnesses can see each part of the face displayed starting from the front face, right side, back, left side, and back to the front face. Carlson (2011) explained that identification tends to be more correct if the faces shown clearly differ. A number of previous studies have shown contradictory results regarding the accuracy of the two methods. The study by Seale-Carlisle et al. (2019), Dobolyi and Dodson (2013), and Carlson (2011) showed results that the simultaneous method is more accurate than the sequential method, while the study by Humphries et al. (2012) and Amendola and Wixted (2015) showed that the sequential method is more accurate than the simultaneous method. Further investigation on previous studies on sequential methods and simultaneous methods were not found in Asian countries, with the "closest" results found in Australia, with the result that the sequential method was better than the simultaneous method in reducing witness bias (Palmer & Brewer, 2012). The use of the simultaneous method and the sequential method in Indonesia itself is unclear, and no in-depth studies have been conducted.

Wells and Loftus (2003) define an eyewitness as an individual who is sure of their testimony and testifies according to their memory. It was explained that if there were no photos of the perpetrator in the row of photos given, eyewitnesses tended to choose individuals who were similar to the real perpetrators. Eyewitnesses, according to the definition by Humphries et al. (2012), starts from children at the age of five years and have the ability to be as accurate as an adult individual in testifying. The ability of eyewitnesses is related to the memory of a crime.

(2019) menjelaskan bahwa terdapat beberapa prosedur yang digunakan oleh berbagai negara untuk membantu proses kesaksian wajah. Amerika Serikat menggunakan metode *simultaneous* sebagai metode dalam identifikasi pelaku yang dilakukan oleh saksi mata wajah. Inggris menggunakan metode *sequential* sebagai metode identifikasi pelaku (Seale-Carlisle et al., 2019).

Metode *simultaneous* yang digunakan Amerika Serikat dijelaskan Seale-Carlisle et al. (2019) dengan menampilkan foto terduga pelaku secara bersamaan di hadapan saksi mata wajah. Seale-Carlisle et al. (2019) mendefinisikan metode *sequential* yang digunakan Inggris dengan menampilkan sebuah video wajah pelaku secara bergantian, dan saksi mata wajah dapat melihat setiap bagian wajah yang ditampilkan mulai dari wajah bagian depan, samping kanan, belakang, samping kiri, dan kembali ke wajah bagian depan. Carlson (2011) menjelaskan bahwa identifikasi cenderung lebih benar jika wajah yang ditampilkan jelas akan perbedaannya. Sejumlah studi terdahulu menunjukkan hasil kontradiktif sehubungan dengan akurasi kedua metode tersebut. Studi oleh Seale-Carlisle et al. (2019), Dobolyi dan Dodson (2013), dan Carlson (2011) menunjukkan hasil bahwa metode *simultaneous* lebih akurat daripada metode *sequential*, sedangkan studi oleh Humphries et al. (2012) dan Amendola dan Wixted (2015) menunjukkan hasil bahwa metode *sequential* lebih akurat daripada metode *simultaneous*. Penelusuran studi tentang metode *sequential* dan metode *simultaneous* tidak ditemukan di negara Asia, dengan hasil "terdekat" ditemukan di Australia dengan hasil bahwa metode *sequential* lebih baik dibanding metode *simultaneous* dalam mengurangi bias saksi (Palmer & Brewer, 2012). Penggunaan metode *simultaneous* dan metode *sequential* di Indonesia sendiri belum diketahui kejelasannya, dan belum ada studi yang dilakukan secara mendalam.

Wells dan Loftus (2003) mendefinisikan saksi mata sebagai individu yang yakin akan kesaksiannya dan bersaksi sesuai dengan ingatannya. Ada dijelaskan bahwa jika tidak ada foto pelaku dalam barisan foto yang diberikan, maka saksi mata cenderung memilih individu yang mirip dengan pelaku sesungguhnya. Saksi mata, menurut definisi oleh Humphries et al. (2012), dimulai sejak anak-anak pada usia lima tahun dan memiliki kemampuan yang sama akuratnya dengan individu dewasa dalam bersaksi. Kemampuan saksi mata berhubungan dengan daya ingat terhadap suatu tindak kejahatan.

Based on the Cognitive Psychology approach, there are various factors that can influence the accuracy of individual memory when giving testimonials (Loftus, 2019). Since more than two decades ago, studies on the influence of cognitive and social factors on testimony have continued to develop (Wells et al., 2000). Nevertheless, studies on testimony and the influence of cognitive biases in the simultaneous and sequential methods (Canter et al., 2013) are still underdeveloped in Indonesia. Therefore, it is necessary to examine the differences between these two methods to enrich scientific studies and practice related to testimony in investigations.

Based on the previous description, it can be concluded that the accuracy of testimony is very important in the investigation process. Simultaneous and sequential methods are used as face testimony identification methods in several countries, but there have been no studies on the effectiveness of the simultaneous and sequential methods in Indonesia. In contrast to the investigative systems in the United States of America and the United Kingdom, the investigative system involving witnesses in Indonesia follows the Constitution Book of Procedural Crime Law, and there is no regulation regarding the use of the simultaneous and sequential methods. Juries or judges in the United States of America utilize witness confidence as the most appropriate reference for accuracy in determining decisions against the accused (Wixted & Wells, 2017). However, several states are beginning to oppose trusting witnesses' confidence in giving testimony. In Wixted and Wells (2017), it is shown that New Jersey and Massachusetts explain the accuracy of testimony not based on high confidence. Statement from Wilson et al. (2013, as cited in Wixted & Wells, 2017) states that eyewitness confidence is actually weakly related to accuracy in recognition.

Previous studies have not consistently shown whether the simultaneous method or the sequential method has higher accuracy of testimony. A number of studies show controversy between the use of the two methods. Although some overseas practices support one method, scientific evidence continues to present contrary facts (McQuiston-Surrett et al., 2006; Lindsay et al., 1997; Steblay et al., 2001). It is important to examine this debate further by examining the differences in the accuracy of the two methods in the Indonesian context. This study wants to prove the effectiveness of the

Berdasarkan pendekatan Psikologi Kognitif, terdapat berbagai faktor yang dapat memberikan pengaruh terhadap keakuratan daya ingat individu ketika memberikan testimoni (Loftus, 2019). Sejak lebih dari dua dekade lalu, studi mengenai pengaruh faktor kognitif dan sosial terhadap kesaksian terus mengalami perkembangan (Wells et al., 2000). Walaupun demikian, studi mengenai kesaksian dan pengaruh bias kognitif dalam metode *simultaneous* dan metode *sequential* (Canter et al., 2013) masih kurang berkembang di Indonesia. Maka dari itu, diperlukan pengujian perbedaan kedua metode ini untuk memperkaya kajian ilmiah dan praktik terkait kesaksian di penyidikan.

Berdasarkan uraian sebelumnya, dapat disimpulkan bahwa keakuratan kesaksian sangatlah penting dalam proses penyidikan. Metode *simultaneous* dan metode *sequential* digunakan sebagai metode identifikasi kesaksian wajah yang ada di beberapa negara, namun belum ada studi tentang efektifitas metode *simultaneous* dan metode *sequential* di Indonesia. Berbeda dengan sistem penyidikan di Amerika Serikat dan Inggris, sistem penyidikan yang melibatkan saksi di Indonesia mengikuti Kitab Undang-Undang Hukum Acara Pidana (KUHP) dan belum ada pengaturan tentang penggunaan metode *simultaneous* dan metode *sequential*. Juri atau hakim di Amerika Serikat menggunakan kepercayaan diri saksi sebagai acuan akurasi yang paling tepat dalam menentukan keputusan terhadap terdakwa (Wixted & Wells, 2017). Walaupun demikian, beberapa negara bagian mulai menentang untuk percaya terhadap keyakinan diri saksi dalam memberikan kesaksian. Dalam Wixted dan Wells (2017), ditunjukkan bahwa New Jersey dan Massachusetts menjelaskan keakuratan kesaksian tidak didasari oleh kepercayaan diri yang tinggi. Pernyataan dari Wilson et al. (2013, sitat dalam Wixted & Wells, 2017) menyebutkan bahwa sebenarnya kepercayaan diri saksi mata berhubungan lemah dengan ketepatan dalam rekognisi.

Studi sebelumnya tidak konsisten menunjukkan apakah metode *simultaneous* atau metode *sequential* yang lebih memiliki keakuratan kesaksian. Sejumlah studi menunjukkan kontroversi antara penggunaan kedua metode tersebut. Meski beberapa praktek di luar negeri mendukung salah satu metode, namun bukti ilmiah terus menghadirkan fakta yang berlawanan (McQuiston-Surrett et al., 2006; Lindsay et al., 1997; Steblay et al., 2001). Perdebatan ini penting untuk diteliti lebih lanjut dengan menguji perbedaan keakuratan kedua metode tersebut di konteks Indonesia. Studi ini

simultaneous method compared to the sequential method in terms of the accuracy of testimony, so that it can become input for the investigation system in Indonesia. In addition, this study also examines the relationship between self-confidence and the accuracy of testimony.

Hypothesis: There are differences in the accuracy of testimony using the simultaneous and sequential methods.

Method

This study is categorized as a research with low or negligible risk, in accordance with the ethical statement number: 001-ES/2023.

Participant

The population of this study is university students with the following criteria: (1) are active students pursuing undergraduate studies at universities in Indonesia; and (2) are not students from universities affiliated with the authors. The aim of choosing participants of affiliations different from the authors was to ensure that the treatment would be neutral and bias-free. There were 72 participants who met the requirements, but a number of them dropped in the enrollment and random assignment processes, leaving a total of 57 participants who took part in the experiment. More detailed information regarding the participant grouping process is provided in Figure 1. The distribution of participants in the simultaneous method experimental group (Group 2) and the sequential method experimental group (Group 1) utilized random assignment. This experiment utilized between subject group design, when after a random assignment, 29 participants were included in the simultaneous method experimental group (Group 2) receiving post-test treatment with the simultaneous method and 28 participants were included in the sequential method experimental group (Group 1) receiving post-test sequential method treatment. The statistical information on study participants' demographics is provided in the Table 1.

Study Design

Prior to the study, all participants were requested to fill out an informed consent form. This study is a trial of the simultaneous method and the sequential method in

ingin membuktikan efektifitas metode *simultaneous* dibanding metode *sequential* dalam hal keakuratan kesaksian agar dapat menjadi masukan sistem penyidikan di Indonesia. Selain itu, studi ini juga menguji hubungan keyakinan diri dengan keakuratan kesaksian.

Hipotesis: Ada perbedaan keakuratan kesaksian dengan menggunakan metode *simultaneous* dan *sequential*.

Metode

Studi ini dapat dikategorikan sebagai penelitian dengan tingkat risiko yang rendah atau risiko yang dapat diabaikan, sesuai dengan pernyataan etika dengan nomor: 001-ES/2023.

Partisipan

Populasi studi ini adalah mahasiswa atau mahasiswi dengan kriteria: (1) merupakan mahasiswa atau mahasiswi aktif yang menempuh studi sarjana pada universitas di Indonesia; dan (2) bukan merupakan mahasiswa atau mahasiswi dari universitas yang berafiliasi dengan penulis. Tujuan pemilihan partisipan studi yang berbeda afiliasi dengan penulis adalah untuk memastikan bahwa perlakuan yang diberikan akan dapat netral dan bebas dari bias. Terdapat 72 partisipan yang memenuhi syarat, namun sejumlah gugur dalam proses *enrollment* dan *random assignment*, hingga tersisa sejumlah 57 partisipan yang ikut dalam eksperimen. Informasi lebih detail sehubungan dengan proses pengelompokan partisipan tersedia dalam Gambar 1. Pembagian partisipan dalam kelompok eksperimen metode *simultaneous* (Kelompok 2) dan kelompok eksperimen metode *sequential* (Kelompok 1) menggunakan *random assignment*. Eksperimen ini menggunakan *between subject group design*, ketika setelah *random assignment*, 29 partisipan masuk dalam kelompok eksperimen metode *simultaneous* (Kelompok 2) mendapat perlakuan *post-test* metode *simultaneous* dan 28 partisipan masuk dalam kelompok eksperimen metode *sequential* (Kelompok 1) mendapat perlakuan *post-test* metode *sequential*. Informasi statistik demografis partisipan studi tersedia dalam Tabel 1.

Desain Studi

Sebelum studi dilakukan, seluruh partisipan diminta untuk mengisi *informed consent form*. Studi ini merupakan uji coba metode *simultaneous* dan metode

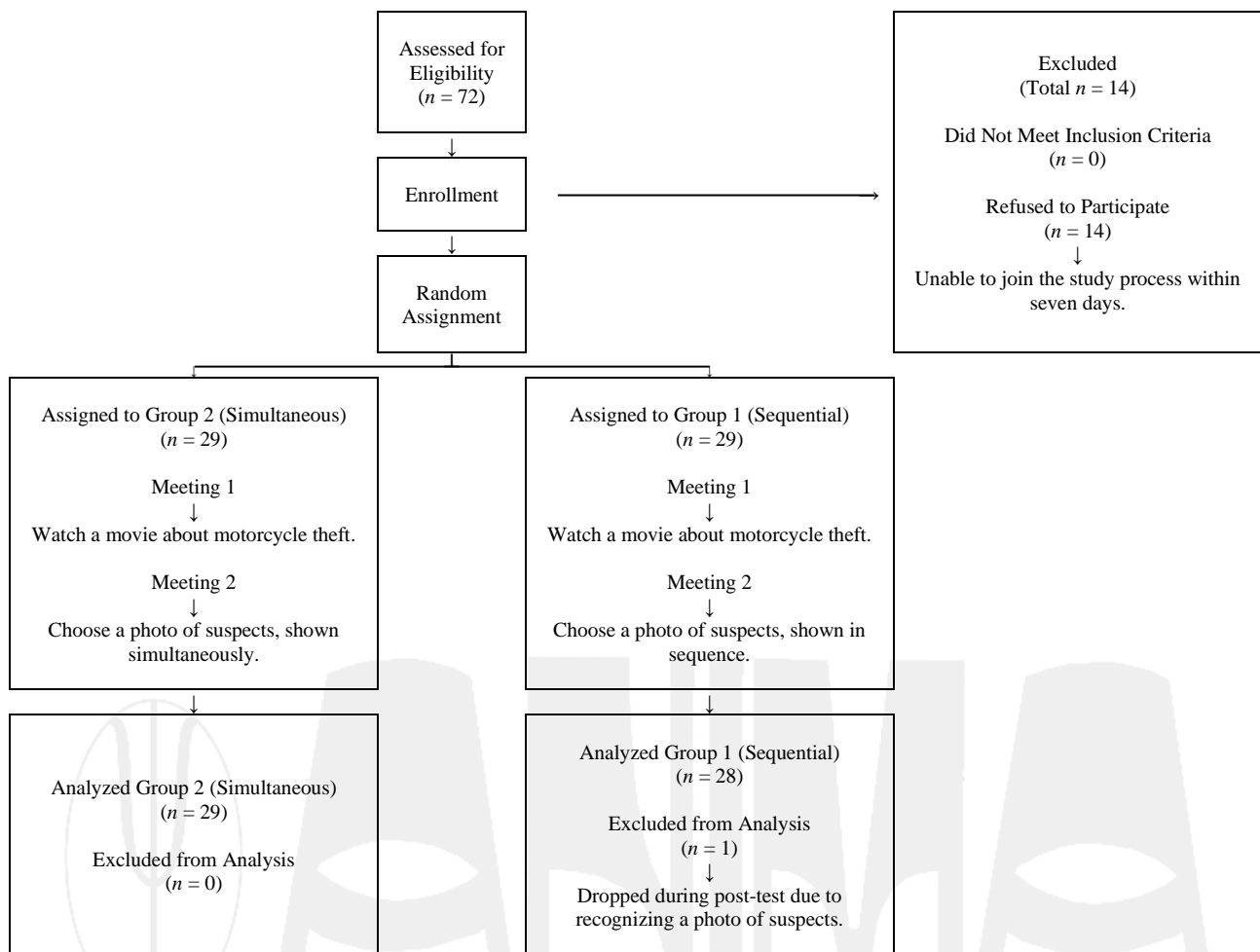


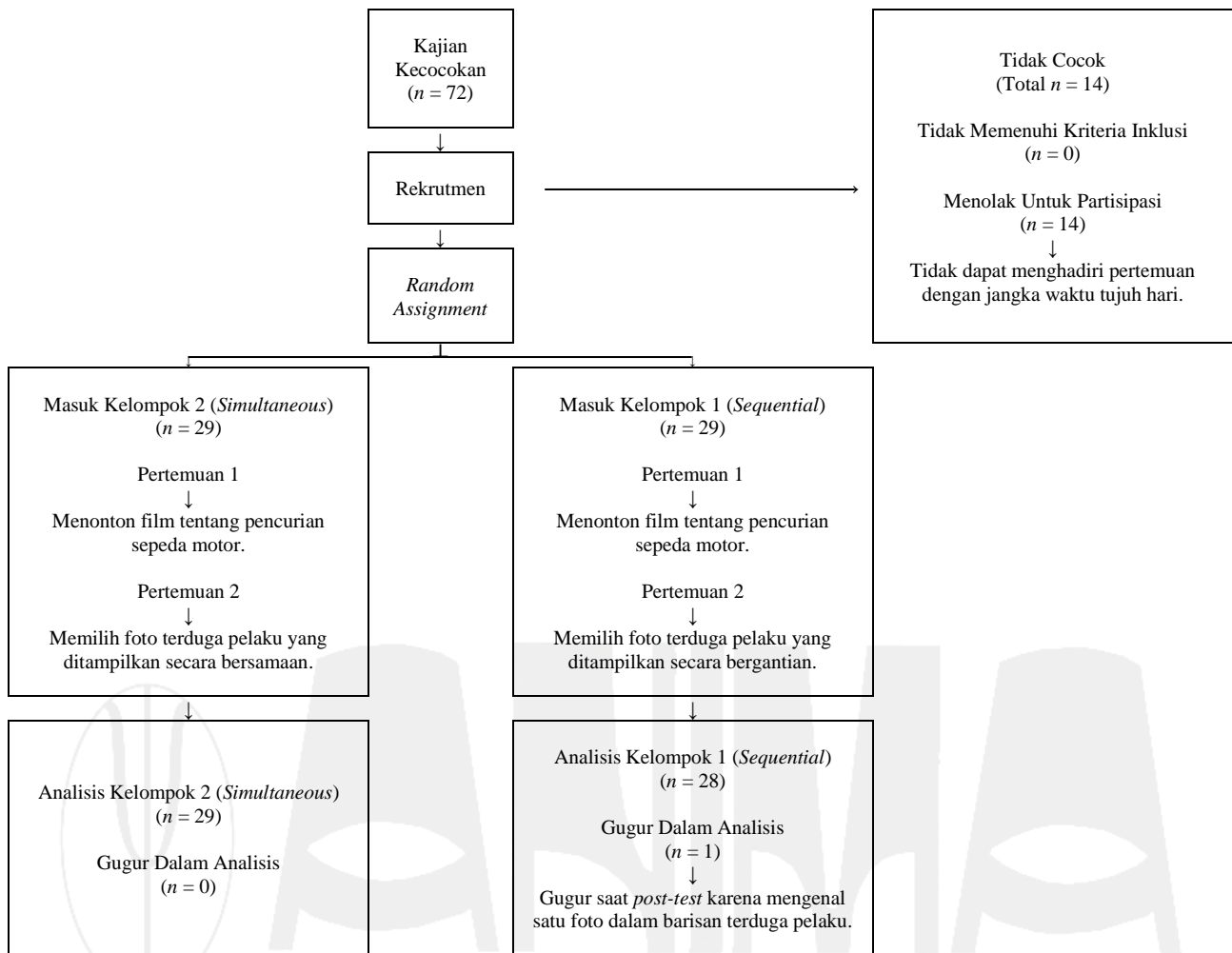
Figure 1. Details of the study process.

influencing the accuracy of testimony in Indonesia. This study utilized a quantitative research design with true experiment design method in the form of a post-test only control group design. During the experiment, the authors were not directly involved, but there were 10 experiment assistants who carried out the experiment. Experiment assistants served in Meeting 1 (watching movie) and Meeting 2 (providing the treatment of simultaneous method and sequential method).

Participants were divided into two groups and acted as witnesses to the theft. Group 1 is the group that receives the treatment of sequential method, while Group 2 is the group that receives the treatment of simultaneous method. Before being treated with simultaneous method and sequential method, the two groups were asked to watch a movie online about motorcycle theft. This study was conducted online because at the time this study was conducted, Indonesia

sequential dalam mempengaruhi keakuratan kesaksian di Indonesia. Studi ini menggunakan desain penelitian kuantitatif dengan metode desain *true experiment* dengan bentuk *post-test only control group design*. Selama eksperimen berlangsung, penulis tidak terlibat langsung, namun ada 10 asisten eksperimen yang melaksanakan jalannya eksperimen. Asisten eksperimen bertugas pada Pertemuan 1 (menonton film) dan Pertemuan 2 (pemberian metode *simultaneous* dan metode *sequential*).

Partisipan dibagi menjadi dua kelompok dan berperan menjadi saksi peristiwa pencurian. Kelompok 1 adalah kelompok yang mendapatkan metode *sequential*, sedangkan Kelompok 2 adalah kelompok yang mendapatkan metode *simultaneous*. Sebelum diberikan metode *simultaneous* dan metode *sequential*, kedua kelompok diminta untuk menonton film secara daring tentang pencurian sepeda motor. Studi ini dilakukan secara daring karena saat studi ini dilakukan, Indonesia



Gambar 1. Detail proses studi.

was experiencing the COVID-19 pandemic.

The scenario of this film was composed by the authors about the theft committed by a man in a mosque. The owner of the motorbike is a woman who was going to pray at the mosque. This woman left their motorbike with a man who served as a parking attendant. While the woman was praying, the man who served as a parking attendant had left the motorbike, because they were given an assignment by an *ustad*, and it was at that time that a motorbike theft incident occurred. Thus, in the film there are two male witnesses, one female victim, and one male perpetrator. All actors in the movie are colleagues of the authors, so it is important to ensure that the study participants are from institutions different from the authors, to reduce the potential of bias due to recognizing the actors. The duration of the film is 181 seconds.

sedang mengalami pandemi *COVID-19*.

Skenario film ini disusun oleh penulis tentang pencurian yang dilakukan oleh seorang laki-laki di sebuah masjid. Pemilik motor adalah seorang perempuan yang akan sholat di masjid. Perempuan ini menitipkan motornya pada seorang laki-laki yang bertugas menjadi tukang parkir. Selama perempuan itu sholat, laki-laki yang bertugas menjadi tukang parkir tersebut sempat meninggalkan motor, karena diberi tugas oleh seorang ustad, dan pada saat itulah terjadi peristiwa pencurian motor. Dengan demikian, dalam film tersebut ada dua saksi laki-laki, satu korban perempuan, dan satu pelaku laki-laki. Semua pemeran dalam film tersebut adalah kolega dari penulis, sehingga penting dalam studi ini untuk memastikan bahwa partisipan studi berasal dari institusi yang berbeda dengan penulis, untuk mengurangi potensi bias karena mengenali pemeran film. Durasi film adalah 181 detik.

Table 1
Demographic Statistics Based on Gender

Category	Total	Percentage
Male	36	63.2%
Perempuan	21	36.8%
Total	57	100%

A week after Meeting 1 (watching movie), participants were invited again to identify photos of the perpetrators in Meeting 2. The interval for treatment and post-test was seven days, referring to the ideal and general limits based on decision data from the *Mahkamah Agung Republik Indonesia* (The Supreme Court of the Republic of Indonesia, 2016, 2017a, 2017b, 2017c, 2017d, 2017e), particularly cases of motorcycle theft (2016-2017). The two groups of participants were shown six photos, namely three photos of male perpetrators and male witnesses who appeared in the film, plus three photos of men who were the same age as the perpetrator. In Group 1 (sequential method group), six photos were presented one by one. In Group 2 (simultaneous method group), six photos were presented simultaneously.

After selecting a photo of the alleged perpetrator, participants were also asked to fill in Self-Confidence Scale. This Self-Confidence Scale consists of a single question related to the participants' level of confidence of their choice. The score range of the Self-Confidence Scale is from "1 (*Extremely Unsure*)" to "10 (*Extremely Sure*)". At the end of the study activity, each participant received electronic money in lieu of lunch expenses.

Manipulation Check

After the required manipulation tools have been prepared, the authors, together with seven experts in the field of Psychology examines the tools. The process of examining the study tools was carried out qualitatively, by discussing aspects of image quality and compatibility with the variables to be measured, as well as ensuring that the stimulus from the tools produced an impact according to the study plan. The manipulation tools were considered appropriate if all members of the expert team agree on the validity of the study tools.

Data Analysis Technique

Data analysis techniques to test the hypothesis utilized cross-tabulation or chi-square. The cross-tabulation analysis technique, apart from being used to test the effect of the simultaneous and sequential methods

Tabel 1
Statistik Demografis Berdasarkan Jenis Kelamin

Kategori	Jumlah	Persentase
Laki-Laki	36	63,2%
Perempuan	21	36,8%
Total	57	100

Seminggu setelah Pertemuan 1 (menonton film), partisipan diundang kembali untuk mengenali foto pelaku dalam Pertemuan 2. Jarak pemberian *treatment* dan *post-test* adalah selama tujuh hari, mengacu pada batas ideal dan umum berdasarkan pada keputusan data Mahkamah Agung Republik Indonesia (The Supreme Court of the Republic of Indonesia, 2016, 2017a, 2017b, 2017c, 2017d, 2017e), khususnya kasus tindak pencurian sepeda motor (2016-2017). Pada kedua kelompok partisipan ditunjukkan enam foto, yaitu tiga foto pelaku laki-laki dan saksi laki-laki yang muncul di film, ditambah tiga foto laki-laki yang seusia dengan pelaku. Pada Kelompok 1 (kelompok metode *sequential*), enam foto disajikan satu per satu. Pada Kelompok 2 (kelompok metode *simultaneous*), enam foto disajikan secara bersamaan.

Setelah memilih foto terduga pelaku, partisipan juga diminta untuk mengisi Skala Keyakinan Diri. Skala Keyakinan Diri ini terdiri dari satu pertanyaan sehubungan dengan tingkat keyakinan diri partisipan dengan pilihan mereka. Rentang skor Skala Keyakinan Diri adalah dari "1 (*Sangat Tidak Yakin*)" sampai "10 (*Sangat Yakin*)". Pada akhir kegiatan studi, tiap partisipan mendapatkan uang elektronik sebagai pengganti biaya makan siang.

Cek Manipulasi

Setelah perangkat manipulasi yang dibutuhkan telah disiapkan, penulis bersama dengan tujuh ahli dalam bidang Psikologi memeriksa perangkat tersebut. Proses pemeriksaan terhadap perangkat ini dilakukan secara kualitatif, dengan mendiskusikan aspek kualitas gambar dan kesesuaian dengan variabel yang akan diukur, serta memastikan bahwa stimulus dari perangkat menghasilkan dampak yang sesuai dengan rencana studi. Perangkat manipulasi dianggap telah sesuai jika seluruh anggota tim pakar menyetujui keabsahan perangkat tersebut.

Teknik Analisis Data

Teknik analisis data untuk menguji hipotesis menggunakan tabulasi silang atau *chi-square*. Teknik analisis tabulasi silang, selain digunakan untuk menguji pengaruh metode *simultaneous* dan metode *sequential*

Table 2
Cross-Tabulation of Accuracy of Testimony with Simultaneous Method and Sequential Method

Category	Method					
	Simultaneous		Sequential		Total	
Accuracy of Testimony*	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Accurate	9	15.79%	12	21.05%	21	36.84%
Inaccurate	20	35.09%	16	28.07%	36	63.16%
Total	29	50.88%	28	49.12%	57	100%
Pearson Chi-Square			0.856			
Sig. Pearson Chi-Square			0.355			

Note. *Participant options consist of "Accurate (or Correct)" and "Inaccurate (or Incorrect)".

Tabel 2
Tabulasi Silang Keakuratan Kesaksian Dengan Metode Simultaneous dan Metode Sequential

Kategori	Metode					
	Simultaneous		Sequential		Total	
Keakuratan Kesaksian*	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Akurat	9	15,79%	12	21,05%	21	36,84%
Tidak Akurat	20	35,09%	16	28,07%	36	63,16%
Total	29	50,88%	28	49,12%	57	100%
Pearson Chi-Square			0,856			
Sig. Pearson Chi-Square			0,355			

Catatan. *Pilihan partisipan terdiri dari "Akurat (atau Benar)" dan "Tidak Akurat (atau Salah)".

on the accuracy of testimony, is also used to test the effect of gender on the accuracy of testimony. In addition, effect size analysis was also carried out with the effect size phi (ϕ). Additional analyzes were performed to examine the correlation between the accuracy of the testimony and the Self-Confidence Scale utilizing a manual analysis of the point-biserial correlation test. Cross-tabulation analysis was performed using the International Business Machines (IBM) Statistical Products and Service Solutions (SPSS) for Windows Version 25.0 program. The study hypothesis is accepted if it fulfills the requirements of $p < .05$.

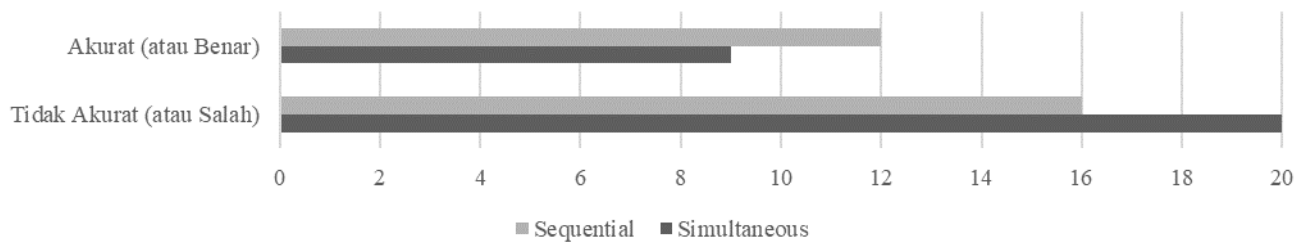
Results

Based on the cross-tabulation analysis between the accuracy of testimony of the simultaneous and sequential methods presented in Table 2, the results of *Pearson Chi-Square* = .856 with a significance value of .355 ($p > .05$) show the conclusion that there is no significant difference in accuracy between the simultaneous and sequential methods, so the proposed study hypothesis is rejected. Descriptively (see Figure 2), the sequential method has a higher accuracy of testimony (with 12 participants) than the simultaneous

terhadap keakuratan kesaksian, juga digunakan untuk menguji pengaruh jenis kelamin terhadap keakuratan kesaksian. Selain itu, juga dilakukan analisis besaran efek dengan *effect size phi* (ϕ). Analisis tambahan dilakukan untuk menguji korelasi antara keakuratan kesaksian dan Skala Keyakinan Diri dengan menggunakan analisis manual uji korelasi poin-biserial. Analisis tabulasi silang dilakukan dengan menggunakan program *International Business Machines (IBM) Statistical Products and Service Solutions (SPSS) for Windows Version 25.0*. Hipotesis studi dapat diterima jika memenuhi syarat $p < 0,05$.

Hasil

Berdasarkan analisis tabulasi silang antara keakuratan kesaksian dengan metode *simultaneous* dan metode *sequential* yang disajikan di Tabel 2, hasil *Pearson Chi-Square* = 0,856 dengan nilai signifikansi 0,355 ($p > 0,05$) menunjukkan kesimpulan bahwa tidak terdapat perbedaan keakuratan yang signifikan antara metode *simultaneous* dan metode *sequential*, sehingga hipotesis studi yang diajukan ditolak. Secara deskriptif (lihat Gambar 2), metode *sequential* memiliki keakuratan kesaksian yang lebih tinggi (dengan 12 partisipan) dibandingkan



Gambar 2. Grafik perbandingan keakuratan kesaksian dengan metode simultaneous dan metode sequential.

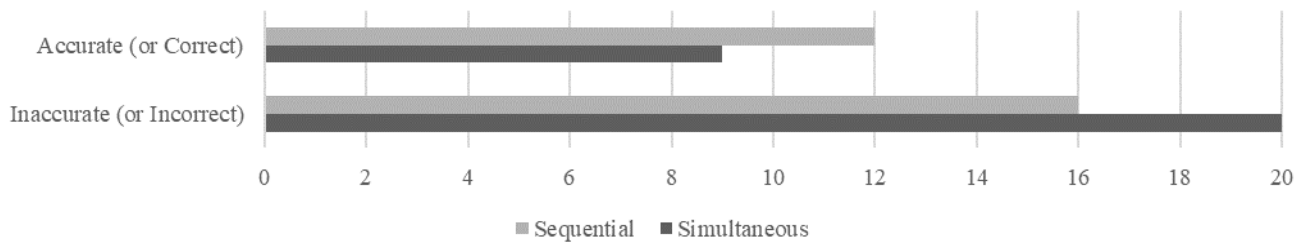


Figure 2. Comparison graph of accuracy of testimony with simultaneous method and sequential method.

method (with nine participants). The calculation of the effect size phi (ϕ) between the accuracy of testimony with the simultaneous method and the sequential method shows the result $\phi = 0.122$, which indicates that the effect size is of small category.

In addition to testing the accuracy of testimony using the simultaneous and sequential methods, a cross-tabulation test was also carried out to measure the accuracy of testimony by gender. Based on the data presented in Table 3, the results of *Pearson Chi-Square* = .022 and *sig. Pearson Chi-Square* = .881 ($p > .05$) indicates the conclusion that the accuracy of testimony is not affected by gender. The calculation of the effect size phi (ϕ) between the accuracy of testimony and gender shows the result $\phi = 0.020$, which indicates that the effect size is of small category.

The point-biserial correlation test between the accuracy of testimony and the Self-Confidence Scale shows the results of $t_{count} = 0.370$ and $t_{table} = 2.000$, which means there is no relationship between the accuracy of testimony and the Self-Confidence Scale. The results are available in more detail through the data in Table 4, while the point-biserial correlation calculations are available in Table 5.

metode *simultaneous* (dengan sembilan partisipan). Perhitungan *effect size phi* (ϕ) antara keakuratan kesaksian dengan metode *simultaneous* dan metode *sequential* menunjukkan hasil $\phi = 0,122$, yang menunjukkan bahwa besaran efek termasuk dalam kategori kecil.

Selain menguji keakuratan kesaksian dengan metode *simultaneous* dan metode *sequential*, uji tabulasi silang juga dilaksanakan untuk mengukur keakuratan kesaksian dengan jenis kelamin. Berdasarkan data yang disajikan di Tabel 3, hasil *Pearson Chi-Square* = 0,022 dan *sig. Pearson Chi-Square* = 0,881 ($p > 0,05$) menunjukkan kesimpulan bahwa keakuratan kesaksian tidak dipengaruhi oleh jenis kelamin. Perhitungan *effect size phi* (ϕ) antara keakuratan kesaksian dengan jenis kelamin menunjukkan hasil $\phi = 0,020$, yang menunjukkan bahwa besaran efek termasuk dalam kategori kecil.

Uji korelasi poin-biserial antara keakuratan kesaksian dan Skala Keyakinan Diri menunjukkan hasil $t_{hitung} = 0,370$ dan $t_{tabel} = 2,000$, yang berarti tidak ada kaitan antara keakuratan kesaksian dengan Skala Keyakinan Diri. Hasil tersebut tersedia secara lebih detail melalui data pada Tabel 4 dan perhitungan korelasi poin-biserial pada Tabel 5.

Table 3
Cross-Tabulation of Accuracy of Testimony with Gender

Category	Gender					
	Male		Female		Total	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Accurate	13	22.81%	8	14.04%	21	36.84%
Inaccurate	23	40.35%	13	22.81%	36	63.16%
Total	36	63.16%	21	36.84%	57	100%
Pearson Chi-Square						.022
Sig. Pearson Chi-Square						.881

Note. *Participant options consist of "Accurate (or Correct)" and "Inaccurate (or Incorrect)".

Tabel 3
Tabulasi Silang Keakuratan Kesaksian Dengan Jenis Kelamin

Kategori	Jenis Kelamin					
	Laki-Laki		Perempuan		Total	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Akurat	13	22.81%	8	14.04%	21	36.84%
Tidak Akurat	23	40.35%	13	22.81%	36	63.16%
Total	36	63.16%	21	36.84%	57	100%
Pearson Chi-Square						0,022
Sig. Pearson Chi-Square						0,881

Catatan. *Pilihan partisipan terdiri dari "Akurat (atau Benar)" dan "Tidak Akurat (atau Salah)".

Table 4
Frequency Distribution of Accuracy of Testimony and Self-Confidence Scale

Category	Self-Confidence Scale**										Total	
	2	3	4	5	6	6,5	7	8	8,5	9	<i>f</i>	%
	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	%
Accurate	1	0	3	4	6	0	11	10	0	1	21	36.84%
Inaccurate	0	1	1	1	3	1	8	3	1	2	36	63.16%
Total	1	1	4	5	9	1	19	13	1	3	57	100%

Note. *Participant options consist of "Accurate (or Correct)" and "Inaccurate (or Incorrect)"; **Answer options of Self-Confidence Scale ranges from "1 (Extremely Unsure)" to "10 (Extremely Sure)".

Tabel 4
Distribusi Frekuensi Keakuratan Kesaksian dan Skala Keyakinan Diri

Kategori	Skala Keyakinan Diri**										Total	
	2	3	4	5	6	6,5	7	8	8,5	9	<i>f</i>	%
	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	%
Akurat	1	0	3	4	6	0	11	10	0	1	21	36,84%
Tidak Akurat	0	1	1	1	3	1	8	3	1	2	36	63,16%
Total	1	1	4	5	9	1	19	13	1	3	57	100%

Catatan. *Pilihan partisipan terdiri dari "Akurat (atau Benar)" dan "Tidak Akurat (atau Salah)"; **Rentang pilihan jawaban Skala Keyakinan Diri adalah antara "1 (Sangat Tidak Yakin)" sampai "10 (Sangat Yakin)".

Table 5
Results of Correlation Testing Between Accuracy of Testimony and Self-Confidence Scale

Dependent Variable	Independent Variable	<i>t_{count}</i>	<i>t_{table}</i>	Information
Accuracy of Testimony	Self-Confidence Scale	0.370	2.000	Not Significant

Tabel 5
Hasil Uji Korelasi Keakuratan Kesaksian dan Skala Keyakinan Diri

Variabel Tetap	Variabel Bebas	<i>t_{hitung}</i>	<i>t_{tabel}</i>	Keterangan
Keakuratan Kesaksian	Skala Keyakinan Diri	0,370	2,000	Tidak Signifikan

Discussions

The results of the cross-tabulation test between the accuracy of testimony with the simultaneous and sequential methods show that the accuracy of testimony is not affected by the simultaneous or sequential methods. In addition, the results also show that there are many mistakes in identifying the perpetrators (compared to accurate identification). Wells et al. (2015) revealed a number of estimated reasons that could affect the accuracy of testimony, namely: (1) the type of crime that occurred; (2) the delay between the crime and the photo identification process; and (3) the distance between eyewitnesses and perpetrators on a crime. The estimated reasons for the inaccuracy of testimony revealed by Wells et al. (2015) have been controlled in this study. The results that are indifferent can be caused because the testimony is seen through a movie (and not direct reality), while the low results in identifying the perpetrator accurately can be caused by the lack of clarity on the face in the testimony movie.

The data obtained shows that the number of accurate witnesses in Group 1 (sequential method group) is higher than Group 2 (simultaneous method group). This is in line with the study by Amendola and Wixted (2015). Amendola and Wixted (2015) added that witnesses tend to focus more on the sequential method and pay more attention to facial features such as hairstyles, wounds, moles, to skin color. The results of the study show that the sequential method can be applied better in the real world, but consideration is needed regarding the number of photos presented in the investigation process. Until the time this study was carried out, there was no study that discussed the ideal or optimal number of photos to be presented in the investigation process.

The results of the cross-tabulation test showed that the accuracy of testimony was not affected by gender. This is not in line with a previous study conducted by Areh (2011), which results stated that there is a relationship between the accuracy of memory about crimes and gender. The study by Areh (2011) found that women tend to be more accurate in testifying than men. According to Loftus et al. (1987, as cited in Areh, 2011) and Loftus (1996, as cited in Areh, 2011) women tend to be more focused on paying attention to the perpetrators of events that occur around them. Areh (2011) also

Diskusi

Hasil uji tabulasi silang antara keakuratan kesaksian dengan metode *simultaneous* dan metode *sequential* menunjukkan bahwa keakuratan kesaksian tidak dipengaruhi metode *simultaneous* atau metode *sequential*. Selain itu, hasil juga menunjukkan banyak kesalahan dalam mengidentifikasi pelaku (dibandingkan identifikasi secara benar). Wells et al. (2015) mengungkapkan sejumlah alasan estimator yang dapat mempengaruhi suatu keakuratan kesaksian, yaitu: (1) jenis kejahatan yang terjadi; (2) jeda antara tindak kejahatan dan proses identifikasi foto; dan (3) jarak antara saksi mata dan pelaku dalam melihat suatu tindak kejahatan. Alasan estimator yang mempengaruhi ketidakakuratan kesaksian yang ungkapkan Wells et al. (2015) sudah diusahakan untuk dikendalikan dalam studi ini. Hasil yang tidak berbeda dapat disebabkan karena kesaksian dilihat melalui film (bukan realita secara langsung), sedangkan rendahnya hasil yang mengidentifikasi pelaku dengan benar dapat disebabkan karena kurang jelasnya wajah dalam film kesaksian.

Data yang didapatkan menunjukkan jumlah saksi benar pada Kelompok 1 (kelompok metode *sequential*) lebih tinggi dibandingkan dengan Kelompok 2 (kelompok metode *simultaneous*). Hal ini sejalan dengan studi Amendola dan Wixted (2015). Amendola dan Wixted (2015) menambahkan bahwa saksi cenderung akan menjadi lebih fokus pada metode *sequential* dan memberikan perhatian lebih pada fitur wajah seperti gaya rambut, luka, tahi lalat, hingga warna kulit. Hasil studi yang menunjukkan bahwa metode *sequential* lebih baik dapat diaplikasikan dalam dunia nyata, namun perlu pertimbangan terkait dengan jumlah foto yang disajikan pada proses penyidikan. Sampai saat studi ini dilaksanakan, belum ada studi yang membahas tentang jumlah foto yang tepat atau optimal untuk disajikan dalam proses penyidikan.

Hasil uji tabulasi silang menunjukkan bahwa keakuratan kesaksian tidak dipengaruhi jenis kelamin. Hal ini tidak sejalan dengan studi terdahulu yang dijalankan Areh (2011), yang hasilnya menyatakan bahwa terdapat hubungan antara keakuratan memori tentang tindak kejahatan dengan jenis kelamin. Studi oleh Areh (2011) menemukan bahwa perempuan cenderung lebih akurat dalam bersaksi daripada laki-laki. Menurut Loftus et al. (1987, sitat dalam Areh, 2011) dan Loftus (1996, sitat dalam Areh, 2011) perempuan cenderung lebih fokus memperhatikan

added that women's careful process begins with longer attention process.

Longstaff and Belz (2020) explain that when women are confronted with men around them, they will feel wary of crime and feel afraid of the potential danger. This increases the focus of women in paying attention to men who they feel the need to watch out for. In this study, the use of movie as testimony is thought to cause feelings of alertness and fear to not arise, as the incident did not occur directly, prompting the cautionary process to not occur. In the cognitive process, emotion has a strong relation with memory. In the study by KaYan et al. (2016), fear is found to affect memory. The study subjects can remember pictures that cause fear better (compared to other emotion; KaYan et al., 2016). Cognitively, this can be explained as fear causes the response of "stop-look-listen" (Gray, 1987, as cited in Krusemark & Li, 2011) and because fear is located in the amygdala which increases individuals' visual processing sensitivity (Calder et al., 2001).

Results of the point-biserial correlation test between the accuracy of testimony and the Self-Confidence Scale show that self-confidence is not related to the accuracy of testimony. Wixted and Wells (2017) explain that so far, United States of America's juries or judges have tended to use self-confidence in testifying to determine court decisions. This should be avoided because self-confidence cannot be relied upon as a solid basis for accuracy. Self-confidence actually has a weak relationship with the accuracy of testimony (Wilson et al., 2013, as cited in Wixted & Wells, 2017). Ancok (1995) argues that witnesses who have low self-confidence and give testimony in a hurry, do not necessarily have low accuracy. However, the opposite can happen. According to Brigham et al. (1999, as cited in Rahayu, 2005), juries or judges place 90% of their trust in the witness, and this can potentially result in an inappropriate or inoptimal decision.

This study contributes scientifically in terms of comparison of lineup methods which have been debated in a number of countries in the last few decades. The results of this study indicate that there is no statistically

pelaku kejadian yang terjadi di sekitarnya. Areh (2011) juga menambahkan bahwa proses kehati-hatian perempuan dimulai dengan proses memperhatikan yang lebih lama.

Longstaff dan Belz (2020) menjelaskan bahwa ketika perempuan dihadapkan dengan laki-laki di sekitarnya, akan timbul perasaan waspada akan kejahatan dan perasaan takut akan bahaya yang dapat datang. Hal tersebut meningkatkan fokus perempuan dalam memperhatikan laki-laki yang dirasa perlu diwaspadai. Dalam studi ini, penggunaan film sebagai kesaksian diduga membuat perasaan waspada dan perasaan takut tidak muncul karena kejadian tidak terjadi secara langsung, sehingga tidak terjadi proses kehati-hatian. Dalam proses kognitif, emosi memiliki kaitan yang kuat dengan memori. Dalam studi oleh KaYan et al. (2016), rasa takut ditemukan memberikan efek pada memori. Subjek studi dapat lebih mudah mengingat gambar yang menimbulkan rasa takut (dibandingkan emosi yang lain; KaYan et al., 2016). Secara kognitif, hal ini dapat dijelaskan karena emosi takut menimbulkan respon "berhenti-lihat-dengar" (Gray, 1987, sitat dalam Krusemark & Li, 2011) dan karena emosi takut berlokasi di *amygdala* yang meningkatkan sensitivitas proses visual individu (Calder et al., 2001).

Hasil uji korelasi poin-biserial antara keakuratan kesaksian dan Skala Keyakinan Diri menunjukkan bahwa keyakinan diri tidak terkait dengan keakuratan kesaksian. Wixted dan Wells (2017) menjelaskan bahwa selama ini juri atau hakim Amerika Serikat cenderung menggunakan keyakinan diri dalam bersaksi untuk menentukan keputusan pengadilan. Hal ini seharusnya dihindari karena keyakinan diri tidak dapat dijadikan dasar yang kuat dalam keakuratannya. Keyakinan diri sebenarnya memiliki hubungan yang lemah dengan keakuratan kesaksian (Wilson et al., 2013, sitat dalam Wixted & Wells, 2017). Ancok (1995) berpendapat bahwa saksi yang memiliki keyakinan diri yang rendah dan menyampaikan kesaksian dengan terburu-buru, belum tentu memiliki keakuratan yang rendah. Walaupun demikian, hal sebaliknya dapat terjadi. Menurut Brigham et al. (1999, sitat dalam Rahayu, 2005), juri atau hakim meletakkan 90% dari kepercayaannya kepada saksi, sehingga dapat berpotensi menghasilkan keputusan yang tidak tepat atau optimal.

Studi ini berkontribusi secara ilmiah dalam hal perbandingan metode *lineup* yang telah menjadi perdebatan di sejumlah negara dalam beberapa dekade terakhir. Hasil studi ini menunjukkan bahwa tidak ada

significant difference between the two methods (sequential and simultaneous methods). However, this does not mean that there are no differences in testimony through the two methods. The psychosocial condition of the witness, the context of the testimony, and various matters related to the cognitive processes of the witness must still be important considerations. The sensitivity of various variables is very likely to influence perception, meaning that even though it may not have a significant effect, there are still differences between the methods. The results of this study are expected to be an important starting point in terms of differentiating the lineup method in investigations. Future studies are expected to continue providing more in-depth scientific information regarding the investigative process.

Limitations and Suggestions

One of the limitations of this study relates to the way the experimental process was carried out. This study was conducted during the COVID-19 pandemic, prompting all experimental processes to be carried out online via Zoom. As a result, participants become emotionally disengaged with events. In addition, other study limitations related to the fact that the movie displayed was not clear in showing the faces of each actors, there was a difference in photo size between the simultaneous and sequential methods, and unfavorable conditions of Internet access. A number of these limitations can affect the internal validity of the study results. For future studies, it is recommended to carry out similar studies offline and focusing on making sure that the faces of each actors are clearly visible. In addition, future researchers are expected to present clear photos of the same size between the two methods.

Another limitation is that even though the results show a non-significant difference, there is a possibility that this is due to the small number of participants in this study. The number of participants in each group was relatively small compared to the number suggested by calculating $power = 80\%$ and $CI = 95\%$, which is a minimum of 64 for each group. The authors experienced obstacles in terms of time, so it was not possible for the authors to obtain larger number of participants, as according to the suggestion. Therefore, future studies can re-examine the differences between the two methods with a larger number of participants and with better strategy, but also by taking into account the ethical principles in the study (especially related to

perbedaan signifikan secara statistik antara kedua metode (metode *sequential* dan metode *simultaneous*). Walaupun demikian, hal tersebut tidak berarti bahwa tidak terjadi perbedaan dalam kesaksian melalui kedua metode tersebut. Kondisi psikososial saksi, konteks kesaksian, dan berbagai hal terkait proses kognitif saksi tetap harus menjadi pertimbangan penting. Sensitifitas berbagai variabel sangat mungkin memengaruhi persepsi, sehingga walaupun mungkin tidak berpengaruh secara signifikan, tetap terjadi perbedaan antar metode. Hasil studi ini diharapkan menjadi awal penting dalam hal membedakan metode *lineup* dalam penyidikan. Studi selanjutnya diharapkan untuk terus memberikan informasi ilmiah yang lebih mendalam sehubungan dengan proses penyidikan.

Keterbatasan dan Saran

Salah satu keterbatasan dalam studi ini adalah sehubungan dengan cara proses eksperimen dilaksanakan. Studi ini dilaksanakan pada masa pandemi *COVID-19* sehingga semua proses eksperimen dilakukan secara daring melalui media *Zoom*. Sebagai dampaknya, partisipan menjadi tidak terlibat secara emosional dengan peristiwa. Selain itu, keterbatasan studi lainnya terkait dengan fakta bahwa film yang ditampilkan kurang jelas dalam menampilkan wajah dari setiap pemeran, ada perbedaan ukuran foto antara metode *simultaneous* dan metode *sequential*, dan kondisi akses Internet yang kurang baik. Sejumlah keterbatasan tersebut dapat mempengaruhi validitas internal hasil studi. Untuk studi selanjutnya disarankan untuk dapat melakukan studi serupa secara luring dan memperhatikan pemberian film dengan wajah setiap pemeran terlihat dengan jelas. Selain itu, peneliti selanjutnya diharapkan untuk menyajikan foto antara kedua metode dengan ukuran yang jelas dan sama.

Keterbatasan lainnya adalah sehubungan dengan walaupun hasil menunjukkan perbedaan yang tidak signifikan, terdapat kemungkinan bahwa hal tersebut adalah pengaruh dari minimnya jumlah partisipan dalam studi ini. Jumlah partisipan tiap kelompok tergolong kecil dibandingkan jumlah yang disarankan dengan perhitungan $power = 80\%$ dan $CI = 95\%$, yaitu minimal 64 untuk tiap kelompok. Penulis mengalami halangan dalam hal waktu, sehingga tidak memungkinkan bagi penulis untuk mendorong capaian jumlah partisipan yang lebih banyak dan sesuai dengan jumlah yang disarankan. Maka dari itu, studi selanjutnya dapat menguji ulang perbedaan antara kedua metode tersebut dengan jumlah partisipan yang lebih besar dan dengan

experiments).

For the police, the authors suggest not to immediately believe the witness' confidence, because it is not related to the accuracy of testimony. The authors also advise investigators not to discriminate between genders in testimonies.

Conclusion

The results of the study show that there is no significant difference in the accuracy of testimony between simultaneous and sequential methods. This is not in line with the proposed hypothesis, so the study hypothesis is rejected. However, based on descriptive observations, the sequential method tends to have better accuracy in testimony than the simultaneous method. The accuracy of testimony is also not affected by gender and has nothing to do with the witnesses' self-confidence. It is hoped that this study can contribute to providing initial information regarding the differences between the two lineups or testimony methods, although the results obtained are subject to a number of limitations. Further studies are still expected to be able to refine findings and conclusions regarding more accurate testimony methods in investigations.

strategi yang lebih baik, namun juga dengan tetap memperhatikan kaidah etika dalam studi (khususnya eksperimen).

Untuk pihak kepolisian, penulis menyarankan untuk tidak langsung dan segera percaya dengan keyakinan saksi, karena keyakinan saksi tidak terkait dengan keakuratan kesaksian. Penulis juga menyarankan pada penyidik untuk tidak membeda-bedakan jenis kelamin dalam memberikan kesaksian.

Simpulan

Hasil studi menunjukkan bahwa tidak terdapat perbedaan keakuratan kesaksian yang signifikan antara metode *simultaneous* dan metode *sequential*. Hal ini tidak sejalan dengan hipotesis yang diajukan, sehingga hipotesis studi ditolak. Walaupun demikian, berdasarkan pengamatan secara deskriptif, metode *sequential* cenderung memiliki keakuratan yang lebih baik dalam kesaksian daripada metode *simultaneous*. Keakuratan kesaksian juga tidak dipengaruhi oleh jenis kelamin dan tidak memiliki kaitan dengan keyakinan diri saksi mata. Studi ini diharapkan dapat berkontribusi dalam menyediakan informasi awal sehubungan dengan perbedaan kedua metode *lineup* atau kesaksian, walaupun hasil yang didapatkan dipengaruhi oleh sejumlah keterbatasan. Studi lebih lanjut masih diharapkan untuk dapat menyempurnakan temuan dan simpulan mengenai metode kesaksian yang lebih akurat dalam penyidikan.

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