



Don't stop believing: the relative impact of internal alibi details on judgments of veracity

Zak Keeping, Joseph Eastwood, Christopher J. Lively & Brent Snook

To cite this article: Zak Keeping, Joseph Eastwood, Christopher J. Lively & Brent Snook (2017) Don't stop believing: the relative impact of internal alibi details on judgments of veracity, *Psychology, Crime & Law*, 23:9, 899-913, DOI: [10.1080/1068316X.2017.1338700](https://doi.org/10.1080/1068316X.2017.1338700)

To link to this article: <https://doi.org/10.1080/1068316X.2017.1338700>



Published online: 24 Jun 2017.



Submit your article to this journal [↗](#)



Article views: 437



View related articles [↗](#)



View Crossmark data [↗](#)



Citing articles: 5 View citing articles [↗](#)



Don't stop believing: the relative impact of internal alibi details on judgments of veracity

Zak Keeping^a, Joseph Eastwood^b, Christopher J. Lively^a and Brent Snook^a

^aDepartment of Psychology, Memorial University of Newfoundland, St. John's, Canada; ^bFaculty of Social Science and Humanities, University of Ontario Institute of Technology, Oshawa, Canada

ABSTRACT

The relative impact of five alibi components on the assessment of alibi veracity was investigated using a policy-capturing methodology. Participants ($N=115$) were instructed to assume the role of a homicide investigator and evaluate 32 alibis that varied on five dichotomous variables: Salaciousness; Legality; Change in Details; Superfluous Details; and Specific Details. Participants evaluated the believability of each alibi, and the likelihood of the alibi provider's guilt. Results indicated that participants tended to disbelieve suspects when illegal or salacious behaviours were mentioned within the alibi. Few decision policies contained Change in Details, Superfluous Details, or Specific Details. The potential implications for alibi assessments during police investigations are discussed.

ARTICLE HISTORY

Received 20 November 2016

Accepted 24 May 2017

KEYWORDS

Alibi assessment; policy-capturing; policing; offending

When a crime has been committed, police officers will typically interview suspects about their whereabouts and actions during the time frame that the crime took place (Dysart & Strange, 2012). If the individual either claims to have been in a different location and/or to have taken part in unrelated activities, their statement is called an alibi (Culhane & Hosch, 2012). Conducting thorough assessments of alibis have important ramifications for investigative outcomes. For example, a police officer's assessment of alibi veracity will impact subsequent investigative decisions (e.g. what suspects to pursue, what leads to ignore). Police officers' decisions regarding veracity also have the potential to impact the assessments made by other triers of fact (e.g. jurors, judges; Dhimi, 2003). A police officer's decision that a suspect is guilty may, for instance, influence (e.g. persuade, render an uncritical acceptance of past decisions) a trier of fact's judgment of guilt or believability.

Despite the consequential nature of alibi assessment, judgments of alibi veracity remain under researched relative other investigative processes (e.g. eyewitness identification, false confessions; see Cutler, 2011; Kassin et al., 2010). The dearth in literature is concerning considering how many police officers, prosecutors, and other triers of fact did not believe the alibi of wrongfully convicted individuals (Innocence Canada, 2016; Innocence Project, 2016). Of the research that does exist, the focus has been primarily on how external corroborating evidence (e.g. eyewitness testimony) impacts believability (e.g. Olson & Wells,

2004). The current study attempts to identify internal alibi features that impact veracity judgments when external evidence is lacking.

Alibi believability

As mentioned, the majority of alibi assessment research has focused on whether or not an alibi is supported by verifiable external (i.e. physical or person) evidence (e.g. Olson & Wells, 2004). Physical evidence refers to concrete, tangible proof that corroborates an alibi (e.g. closed circuit video footage, receipts), whereas person evidence refers to third-party eyewitness testimony (e.g. neighbour, friend). Although research indicates that physical evidence is the strongest form of corroborating evidence (e.g. Olson & Charman, 2012; Skolnick & Shaw, 2001), it is rare for alibi providers to mention or provide physical evidence (Dysart & Strange, 2012; Olson & Charman, 2012). Alibi providers typically offer person evidence from parties who may be motivated to lie for the suspect, which is related to less believable alibis (e.g. family members, significant others; see Culhane & Hosch, 2004; Olson & Charman, 2012). Such findings, therefore, raise concerns about the ability of alibi providers to produce strong external corroborating evidence (i.e. provided by a non-motivated party).

When external evidence is easy to fabricate (e.g. print tickets for sporting event that went unattended) or is non-existent (see Olson & Wells, 2004, for taxonomy of alibi evidence), alibi evaluators may need to consider internal alibi details when judging veracity. A review of the academic and practitioner literature suggests that at least five different types of internal details may have an effect on alibi believability evaluations. Alibis may vary according to the presence or absence of (1) salacious behaviour; (2) illegal behaviour; (3) changes in information; (4) superfluous details; and (5) overly specific details.

Salaciousness

Salaciousness refers to sexually based behaviours that are not condoned by the majority of people (Allison, Mathews, & Michael, 2012). For example, taking nude selfies may be considered salacious. In terms of veracity assessment, reporting such an action within an alibi could promote either higher or lower ratings of believability. Logically, disclosing salacious details could lead alibi evaluators to conclude that the suspect is being honest because the admission of personal and potentially embarrassing behaviour is unexpected. In other words, admitting participation in salacious behaviour might suggest that the alibi provider has decided to accept the social costs of being judged negatively over the risk of appearing suspicious by either saying nothing (i.e. providing no alibi at all) or providing a deceptive alibi (Allison et al., 2012).

Alternatively, hearing about the suspect's salacious activities may lead the alibi evaluator to develop a negativity bias (see Crandall, 1975; Skowronski & Carlston, 1989). A negativity bias refers to the idea that, when someone is presented with both positive and negative attributes about a target (e.g. a person, an object), there tends to be a strong focus (i.e. bias) on the negative information when rendering judgments about that target. In other words, negative information is more salient as compared to positive information (see Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). In the alibi evaluation context, alibi evaluators who view salacious behaviour negatively may be more likely to deem a salacious-laden alibi as relatively less believable (as compared to an alibi that does not contain such behaviours).

The impact of salaciousness on alibi believability was first examined empirically by Allison et al. (2012). These researchers recruited 226 undergraduate students to read and rate the believability of one of eight mock alibis that differed on salaciousness (i.e. watching regular movie vs. X-rated movie), strength of evidence (i.e. physical evidence presence vs. absent), and corroborator credibility (i.e. corroborator had a previous criminal record vs. no criminal record). Allison and colleagues found that alibis containing salacious behaviours were more believable than non-salacious behaviours, and that suspects who mentioned salacious alibis were considered less guilty than the control group.

By contrast, Jung, Allison, and Bohn (2013) used a similar procedure to the Allison et al. (2012) study, but found that the salaciousness of an alibi did not impact alibi believability. A subsequent study also found that salacious alibis did not impact believability judgments (Allison, Jung, Sweeney, & Culhane, 2014). Compared to control conditions, however, non-salacious alibis (e.g. watching a movie) increased believability ratings. More recently, Nieuwkamp, Horselenberg, and van Koppen (2016) found that community members rated a non-salacious alibi (i.e. helping a cousin move) as more believable than a salacious alibi (i.e. cheating with a mistress) when any additional information regarding the suspect was absent. However, if the suspect first provided an incorrect alibi (i.e. was at work) that they subsequently changed to either a salacious or non-salacious alibi, then the salacious alibi was rated as more believable – this effect was even greater when the change was deliberate (i.e. the original alibi was a lie) rather than when the change was accidental. Taken together, the impact of salaciousness on alibi believability remains inconclusive.

Legality

Another variable that may influence believability is whether or not an activity mentioned in an alibi is prohibited by law. Some alibi assessors might relate the admissions of illegal activity with being honest because the suspect is liable to be punished for their confession. As with salacious behaviours, assessors may believe a suspect chose to accept the consequences of admitting criminality over the risk of appearing suspicious by not providing an alibi or by providing a false alibi (Allison et al., 2012). That is, the alibi evaluator may assume that a suspect would only admit other criminal behaviour to a police officer if they were telling the truth.

Conversely, some alibi assessors may find the suspect's admission of illegal actions to be indicative of guilt. As is the case for salacious events, hearing about the suspect's involvement in another crime may lead the evaluator to perceive the suspect as being more likely to have been involved in the current illegal activities. Indeed, research in related areas (e.g. prior conviction history; Allison & Brimacombe, 2010; Greene & Dodge, 1995) has shown that a defendant's criminal history can negatively impact decisions made by triers of fact. For instance, Greene and Dodge (1995) found that jurors who learned about a defendant's conviction history were more likely to render a guilty verdict than jurors who were not made aware of past criminal activity. Similarly, Allison and Brimacombe (2010) found that mock jurors were more likely to judge defendants as guilty if the defendants had been convicted for the same type of crime in the past (i.e. repeat offender). Given this related research, it would be expected that an alibi containing an illegal event would lead to lowered believability ratings. However, a study by Allison et al. (2014) did not find any statistically significant relationship between legality and believability ratings. It is important to note that the study used only one illegal activity

(i.e. illegal downloading) that is viewed by many as a moral rather than a legal issue (Altschuller & Benbunan-Fich, 2009; Jambon & Smetana, 2012). Consequently, a stronger, more robust manipulation of legality is required when examining its effect on alibi believability.

Change in details

A structural component assumed to impact believability is whether or not details change in the suspect's alibi. This component was first mentioned by Olson and Wells (2004), who posited that alterations in the account can be intentional (i.e. to avoid incriminating oneself) or unintentional (i.e. misremembering specific details). How alibi assessors view changes in detail likely varies based on what the assessor believes about memory. For example, assessors may view alibi changes as suspicious if they think that memory is permanent and works like a video camera; that is, the assessor believes an encoded event can be recalled an endless number of times without any differences in the details recalled (Simons & Chabris, 2011). Alternatively, a change in alibi details might be viewed as being honest if the assessor is aware that memory is malleable and constructive (see Loftus, 1979). Put differently, people who are aware of how memory works are more likely to be skeptical of people who never change details – a concept that is referred to in deception detection research as correction (e.g. DePaulo et al., 2003; Undeutsch, 1967).

The empirical literature suggests that changes in account details is related to lower ratings of alibi believability. A survey by Culhane, Hosch, and Kehn (2008) found that nine-tenths of college students believed that changing details was indicative of lying. Dysart and Strange's (2012) survey also revealed that most senior law enforcement officers believed that changing details was a sign of lying. In terms of intention to change details, less than one-fifth of law enforcement officers believed that the alibi provider was mistaken. In another survey, Culhane and Hosch (2012) found that both law enforcement students and current law enforcement officers believed that changes in account details was indicative of lying, regardless of the strength of the corroborating evidence (e.g. having an additional corroborator) contained in the alibi. It is also worth noting that the empirical research findings listed here (i.e. that changing details lowers believability) runs counter to the consensus in the deception detection literature; changes in account details is often viewed as an indicator of honesty (see Raskin & Esplin, 1991; Vrij, 2005, 2015).

Superfluous details

A fourth variable that may affect alibi believability is the presence of unnecessary details. The presence of superfluous details is considered an indicator of believability in police training manuals and deception detection tools (e.g. Inbau, Reid, Buckley, & Jayne, 2013). The mentioning of superfluous information (i.e. information that is unrelated to the alibi) may logically indicate that the alibi provider is recounting a true memory. For example, the Reid Model of Interrogation – one of the most widely used police interrogation techniques in the world – advises practitioners that liars stick to basic details of the crime's material time frame (i.e. do not add unnecessary details; Inbau et al., 2013). Additionally, it appears that criteria from some of various deception detection approaches (e.g. scientific content analysis; Sapir, 2005; criteria-based content analysis; Steller & Köhnken, 1989; Undeutsch, 1967) also suggest that superfluous information is indicative of truth telling.

Specific details

A final variable that may impact alibi believability judgments is the specificity of temporal details. For example, a suspect may report that they returned home at exactly 7:10 pm (i.e. specific) or the suspect may mention that they arrived home 'in the evening' (i.e. vague). Temporal specificity is important for investigations because it helps create a timeline of actions surrounding the crime events (Milne & Bull, 2003). The aforementioned Reid manual (Inbau et al., 2013) teaches practitioners that suspects who provide vague alibis (i.e. no precise time given) are being deceptive; an assumption that is also reflected in other deception detection tools. By contrast, the underlying Reid training and deception detection tools suggest that suspects who provide specific details regarding their whereabouts should be perceived as providing a truthful alibi (Inbau et al., 2013; Steller & Köhnken, 1989; Undeutsch, 1967).

The current study

The goal of the current study is to identify the internal components of an alibi that evaluators may rely on to make veracity decisions. Specifically, we consider the relative importance of five types of internal details on alibi believability evaluations. These include the presence or absence of (1) salacious behaviour; (2) illegal behaviour; (3) changes in information; (4) superfluous details; and (5) overly specific details. Given that the empirical literature has mixed conclusions or missing evidence for each of the above variables, we refrain from making specific predictions.

Method

Participants

The sample consisted of undergraduate students ($N = 115$) enrolled in an introductory psychology course at the University of Ontario Institute of Technology (UOIT) in Oshawa, Canada. Students were invited to participate in the study by registering through an online experiment registration site (i.e. Sona Systems). Students were given an incentive of a 1% bonus mark on their final grade for participating in the study. Eighty participants were female. The mean age of participants was 20.25 years ($SD = 5.12$, $Range = 17-56$), and the mean year of study was 1.72 ($SD = 0.93$, $Range = 1-5$).

Materials and design

In order to present each participant with every possible combination of variables, a $2 \times 2 \times 2 \times 2 \times 2$ orthogonal design was used. The factors that were varied across the alibis presented to participants included: Salaciousness (1 = *no* vs. 2 = *yes*); Legality (1 = *illegal* vs. 2 = *legal*); Change in Details (1 = *yes* vs. 2 = *no*); Superfluous Details (1 = *no* vs. 2 = *yes*); and Specific Details (1 = *yes* vs. 2 = *no*). The fully orthogonal design therefore included 32 unique alibis. A copy of the alibi-vignettes used in the current study can be obtained by contacting the corresponding author.

The study was put online using SurveyMonkey. The first page consisted of an informed consent form. The second page consisted of demographic questions (e.g. age, gender, year of study). The third page consisted of instructions asking participants to assume the role of a police detective investigating a homicide in an apartment building. The

instructions stated that 32 people were present in the building at the time of the crime, resulting in 32 potential suspects. All 32 suspects had been interviewed about their whereabouts and actions during the crime's time frame, and each possible suspect claimed to be innocent and provided an alibi. The participants were then told that their role was to review each alibi and use a 7-point scale to rate the alibi's believability (1 = *Extremely Unbelievable*, 7 = *Extremely Believable*), likelihood that the suspect is guilty (1 = *Extremely Unlikely*, 7 = *Extremely Likely*), and likelihood that they would bring the suspect into the police station for further questioning (1 = *Extremely Unlikely*, 7 = *Extremely Likely*).¹

A recent study by Culhane et al. (2013) examining the generation of true and false alibis found that falsely generated alibi statements contained more words than truthful alibi statements. These findings suggest that the variations in the length of vignettes (i.e. written statements) may have an impact on believability ratings. With the exception of Superfluous Details and Change in Details, there were no significant differences in word length between the two levels for each of the remaining three binary independent variables. Vignettes that contained superfluous details had a mean length of 121.56 words ($SD = 8.25$), compared to a mean length of 106.31 words ($SD = 6.39$) for vignettes that did not have superfluous details, $t_{(30)} = -5.846$, $p = .000$, $d = 2.07$. Similarly, vignettes that contained a change in detail had a mean length of 118.50 words ($SD = 10.67$), while unchanged alibis had a mean length of 109.38 words ($SD = 8.64$), $t_{(30)} = 2.658$, $p < .02$, $d = 0.94$. The correlation between superfluous details and word count was $r = .73$ ($p = .000$), while the correlation between change in details and word count was $r = .44$ ($p < .02$). The greater word length associated with vignettes that contain superfluous or changed details is not surprising because adding additional details or new information increases the vignette length. In essence, word length is congruent with these two variables. The correlations between the remaining independent variables and word count were negligible ($r_s < .15$).

Pages four to six consisted of three practice vignettes to help familiarize participants to the task, and page seven stated that the practice session was complete. The remaining pages consisted of the 32 vignettes that were presented in random order. The second to last page involved an open-ended invitation for participants to 'Please record, in as much detail as possible, how you made your decisions regarding the alibis.' The last page informed participants that the study was finished, contained a short outline of the purpose of the study, and thanked them for participating.

Operationalizing variables

In order to overcome the limitation of using only one illegal and/or salacious activity (e.g. Allison et al., 2014), a variety of actions and behaviours were used as illegal activities (e.g. counterfeiting, insider trading, creating fake IDs), salacious activities (e.g. calling a sex hotline, using handcuffs sexually, dressing in drag, watching an X-rated movie), illegal and salacious activities (e.g. having sex with an animal, public urination, voyeurism, exhibitionism), and neither salacious nor illegal activities (e.g. writing e-mails, reading a book, playing Solitaire). Given the potential of participants' subjectivity toward what constituted salacious behaviours and illegal activities, pilot testing was done to ensure that participants would agree with what we defined as a salacious behaviour and/or illegal activity. The pilot testing required participants to rate, on a scale of 1–7, the extent to which an activity was illegal and a behaviour was salacious. Only activities that were rated consistently as illegal and salacious were selected for the experiment. To operationalize Specific

Details, alibis were manipulated to have specific times (e.g. 10:20 pm to 10:50 pm) or non-specific times (e.g. 'when I got home from work'). Superfluous Details were manipulated by including one sentence about either a subject unrelated to the crime (e.g. story about the suspect's pet) or a detail that was pertinent to the crime (e.g. length of time spent on an alibi activity). Change in Details was manipulated by altering a detail contained earlier in the alibi (e.g. timeline, activity). None of the details that were changed in the alibis pertained to any of the other independent variables (e.g. activity did not change from being salacious to non-salacious). Two full-length example vignettes with bolded annotations are included in the [appendix](#).

Policy-Capturing analysis

A policy-capturing approach was used to investigate how these five variables contribute to the alibi assessment process. The policy-capturing methodology involves having participants judge multiple scenarios that contain various levels of the independent variables being considered (Aiman-Smith, Scullen, & Barr, 2002; Eastwood, Snook, & Au, 2016). In the current paper, stepwise regression analysis was used to predict how each participant ranked and combined variables (i.e. their assumed decision-making process). The five binary independent variables (e.g. Salaciousness, Change in Details) were regressed on each of the dependent variables (e.g. Alibi Believability). The stepwise regression identifies (a) how many variables comprise each participant's decision-making policy; (b) which variables are significant predictors of a participant's ratings; (c) the direction of the relationships of the variables; and (d) the relative importance of each variable (e.g. the proportion of variance attributed to each variable in the model).

Coding open-ended responses

Participants' responses to the open-ended question at the end of the survey were coded by the first author. The coding guide involved examining the open-ended responses for presence of one of the five variables (i.e. mention of Specific Details, or Salaciousness, etc.). After the first author had coded all 115 of the open-ended answers, the third author independently coded 30 of the responses as well. The mean Kappa value for the coding of the open-ended responses was 0.82 ($SD = 0.04$, Range = 0.78–0.87) suggesting substantial agreement between the two coders (Fleiss, 1981; Landis & Koch, 1977). The average response length to the open-ended question was 78.37 words, ($SD = 40.14$, Range = 9–206).

Procedure

This study received ethical clearance through UOIT's Research Ethics Board. Once participants arrived at the lab, they were greeted by a research assistant. Participants were then brought to private cubicles where they reviewed information about the study (i.e. informed consent form) and then subsequently completed the study online using a desktop computer. At the end of the study, a feedback form explaining the experiment was provided to participants online. After the participants had finished the study, they were thanked for their participation and asked if they had any questions.

Results

The regression analyses indicated that participants' decision policies contained, on average, 0.80 cues ($SD = 0.82$, 95% $CI = 0.65, 0.95$) when making their believability ratings. The mean R^2 value for the regression models was 0.29 ($SD = 0.13$). A total of 48 (41.7%) participants did not have a predictable decision policy. Of the remaining 67 participants who had a decision policy, 46 participants (68.7%) had a decision policy that consisted of one cue, 17 participants (25.4%) had a policy with two cues, and 4 participants (6.0%) had a policy with three cues. No participants had a decision policy that consisted of four or five cues. With respect to the cues comprising the 67 decision policies, 41 (61.2%) contained Legality, 29 (43.3%) contained Salaciousness, 8 (11.9%) contained a Change in Details, 8 (11.9%) contained Superfluous Details, and 6 (9.0%) contained Specific Details.

Table 1 contains the frequencies and the directionalities of all variables. In all but two cases when Legality was a significant predictor, illegal events were associated with lower ratings of believability. A total of 23 participants (34.3%) decisions could be predicted exclusively with Legality, and Legality was the strongest predictor for 13 of the remaining 18 (72.2%) decision policies where Legality was one of several significant predictors. In total, Legality was the strongest predictor in 36 of the models (53.7%). When Salaciousness was a significant predictor (with the exception of one case), the presence of salacious behaviour was always associated with lower ratings of believability (96.6%). Of the 29 participants who had a decision policy that contained salaciousness, 8 of them (27.6%) relied exclusively on that variable to make their believability decisions. Moreover, Salaciousness was the strongest predictor for 8 of the remaining 21 (38.1%) decision policies where Salaciousness was one of several significant predictors. In total, Salaciousness was the strongest predictor for 16 of the 67 (23.9%) decision policies rendered. The remaining three variables were rarely significant predictors of participants' believability decisions. See Table 2 for the remaining frequency and relative rankings of the other predictors.

In terms of likelihood of guilt ratings, the regression analyses indicated that participants' decision policies contained an average of 0.75 cues ($SD = 0.80$, 95% $CI = 0.60, 0.90$). The mean R^2 value for the regression models was 0.30 ($SD = 0.12$). Fifty-one participants (44.3%) did not have a decision policy. Of the remaining 64 participants who had a

Table 1. Frequency (and percentage) and directionality of variables contained in decision policies.

Relationship	Believability ($n = 67$)					Likelihood of Guilt ($n = 64$)				
	Legality	Salacious	Change	Superfluous	Specific	Legality	Salacious	Change	Superfluous	Specificity
Positive	39 (58.2%)	1 (1.5%)	4 (6.0%)	7 (10.4%)	4 (6.0%)	1 (1.6%)	12 (18.8%)	5 (7.8%)	2 (3.1%)	3 (4.7%)
Negative	2 (3.0%)	28 (41.8%)	4 (6.0%)	1 (1.5%)	2 (3.0%)	47 (73.4%)	4 (6.3%)	6 (9.4%)	3 (4.7%)	3 (4.7%)

Note: A positive relationship for Legality means that legal activity is associated with higher ratings of believability/likelihood of guilt. A negative relationship for Salaciousness means that the presence of salacious behaviours is associated with lower ratings of believability/likelihood of guilt. A positive relationship for Change in Details means that not changing the details of an alibi is associated with higher ratings of believability/likelihood of guilt. A positive relationship for Superfluous Details means the presence of unnecessary details is associated with higher ratings of believability/likelihood of guilt. A positive relationship for Specific Details means that being vague is related to higher ratings of believability/likelihood of guilt.

Table 2. Rank order of predictors contained in decision policies as a function of judgment type.

Predictor	Believability (<i>n</i> = 67)			Likelihood of guilt (<i>n</i> = 64)		
	Ranked first	Ranked second	Ranked third	Ranked first	Ranked second	Ranked third
Legality	36 (53.7%)	5 (7.5%)	0 (0.0%)	48 (75.0%)	0 (0.0%)	0 (0.0%)
Salacious	16 (23.9%)	12 (17.9%)	1 (1.5%)	4 (6.3%)	10 (15.6%)	2 (3.1%)
Change	5 (7.5%)	1 (1.5%)	2 (3.0%)	3 (4.7%)	7 (10.9%)	1 (1.6%)
Superfluous	5 (7.5%)	3 (4.5%)	0 (0.0%)	4 (6.3%)	0 (0.0%)	1 (1.6%)
Specific	5 (7.5%)	0 (0.0%)	1 (1.5%)	5 (7.8%)	1 (1.6%)	0 (0.0%)

decision policy, 46 (71.9%) had a policy that contained one cue, 14 (21.9%) had a policy that consisted of two cues, and 4 (6.3%) had a policy that consisted of three cues. No models of participants' decisions contained four or five significant predictors. With respect to the cues comprising the 64 decision policies, 48 (75.0%) contained Legality, 16 (25.0%) contained Salaciousness, 11 (17.2%) contained a Change in Details, 6 (9.4%) contained Specific Detail, and 5 (7.8%) contained Superfluous Details (see Table 1).

With the exception of one decision policy where Legality was a significant predictor of likelihood of guilt, the mention of an illegal activity in an alibi was always associated with higher ratings of guilt. A total of 34 of the 64 decision policies (53.1%) contained only Legality, and Legality was the strongest predictor in all of the remaining 14 decision policies where Legality was one of several significant predictors. In total, Legality was the strongest predictor in 48 of the decision policies (75.0%). When Salaciousness was a significant predictor of guilt, the presence of salacious information indicated higher ratings of guilt in most cases (75.0%). A total of three decision models (4.7%) contained only Salaciousness, and Salaciousness was the strongest predictor for one of the remaining 13 (7.7%) decision policies where that variable was a significant predictor. In total, Salaciousness was the strongest predictor of participants' judgments of suspect guilt in four (6.3%) of the decision policies. Similar to the believability decisions, the remaining three predictors were rarely observed in decision policies that predicted guilt ratings. Analyses also revealed that there was a large correlation between the dependent measures of believability and likelihood of guilt ($r = -0.63$).

In terms of the coded open-ended responses, Legality was the most commonly mentioned cue (57 mentions, 49.6% of all cases). Specific Details was the second most commonly mentioned cue (38 mentions, 33.0%), and Salaciousness was the third most commonly mentioned cue (20 mentions, 17.4%). The remaining variables (Change in Details, Superfluous Details) were mentioned in less than 6% of cases each.

Discussion

The goal of the current study was to measure the relative impact of five internal alibi components (namely, Salaciousness, Legality, Change in Details, Superfluous Details, and Specific Details) on alibi veracity. Our results show that alibis that contained mention of illegal activities were associated with lower ratings of believability and higher ratings of guilt. Similarly, alibis that contain salacious behaviours were associated with lower

ratings of believability and higher ratings of guilt. The remaining three variables appeared rarely in the participants' decision policies – that is, they rarely predicted participants' judgments of believability or guilt. In addition, a decision policy was not rendered for many participants. Our results both confirm and contradict previous empirical findings on alibi believability assessments, and contribute to the literature by indicating how some internal alibi components impact an evaluator's decision for determining alibi veracity.

Our analyses showed that Legality, and to a lesser extent Salaciousness, emerged as the best predictors of both alibi believability and guilt ratings. Alibi providers who mentioned that they were not responsible for the homicide because they were otherwise engaged in illegal and/or sexually charged behaviour were less likely to be believed or judged to be innocent than those who did not divulge such activities. Such results lends support to the findings from the negativity bias literature (Baumeister et al., 2001; Crandall, 1975; Skowronski & Carlston, 1989), as claiming to be engaged in ostensibly negative behaviours (i.e. illegal or salacious actions) may then lead the alibi provider to be perceived as also being responsible for the current negative behaviour (i.e. crime under investigation). The larger impact of illegal behaviours vs. salacious behaviours, as evidenced by both the objective ratings and open-ended responses, may be a result of the decision context faced by the alibi assessors. That is, reported past criminal behaviour may be a more relevant and salient indicator given that the alibi assessors are investigating a current criminal behaviour (i.e. homicide) as opposed to current salacious behaviour.

As mentioned previously, prior explorations of Legality and Salaciousness within alibis has led to inconsistent or weak effects (e.g. Allison et al., 2014; Jung et al., 2013). The likely explanation for why the variables of Legality and Salaciousness produced relatively strong and consistent effects in our study lies in the way the variables were operationalized. For example, Allison et al. (2014) used behaviour (i.e. illegal downloading) that either may not be perceived as an illegal or serious crime (e.g. Altschuller & Benbunan-Fich, 2009; Jambon & Smetana, 2012), and the salacious event used in Allison et al.'s, 2012 study (i.e. watching X-rated video) may have been perceived as relatively benign. By contrast, the current study used behaviours that were arguably more strongly deviant in nature (e.g. defrauding elderly people, sex with an animal). The increased seriousness of the illegal and/or salacious events may be responsible for creating a stronger negativity bias, and in turn a greater likelihood of the suspect being perceived as guilty. In line with this explanation, Nieuwkamp et al. (2016) also used a stronger manipulation of salacious behaviour (i.e. cheating on wife) and found that salacious alibis led to lower believability ratings. This notion, however, needs to be tested further in subsequent studies. Future researchers may want to consider whether the level of perceived deviancy of an alibi event directly impacts the subsequent assumptions regarding the veracity of the alibi.

Compared to the Legality and Salaciousness, the remaining three variables were found rarely in the participants' decision policies. Of these three variables, the presence of unnecessary details led to more believable alibis than when such superfluous details were absent. The directionality of the Change in Details and Specific Details variables were split relatively equally – that is, the number of times that each variable was positively and negatively associated with alibi veracity were roughly the same. Although stronger manipulations of these variables, or assessing them in isolation, may result in them being predictors of veracity decisions, it is possible that alibi assessors were relatively

unconcerned with *how* an alibi is presented, and instead were concerned primarily with *what* the suspect reported engaging in during the target time period.

One of the more perplexing findings found within the open-ended responses was that participants mentioned Specific Details as one of the leading factors that influenced their decision-making process. This variable was the second most commonly mentioned alibi element after Legality, having been cited two times more than Salaciousness. Although participants appeared to believe that the preciseness of temporal details influenced their policy decisions, the regression analyses suggests otherwise – Specific Details rarely predicted ratings of alibi believability and likelihood of guilt. Although we are surprised at this finding and are not entirely sure why this pattern emerged, we can only speculate that participants are not fully cognisant of how they are making their assessment decisions, and are being influenced (without their awareness) by other elements or factors. It might be possible that the regression analyses are not capturing the participants' decision policies accurately (i.e. other models may wish to be used such as the Matching Heuristic, see Dhimi, 2003). It may also be possible that the participants are not using the operational definition of Specific Details that we used. Put differently, rather than focus on the temporal aspect of specific details, participants may have viewed a suspect reporting extra information (i.e. superfluous details) as providing specific information about their whereabouts and actions. Future studies will be required to identify the underlying reason for the discrepancy between the self-report findings and regression models.

It is important to note that many participants did not rely upon any cues when analysing the alibis. Just over two-fifths of participants did not have a decision-making policy to assess believability, and just under half did not have a decision-making policy to assess guilt. There are several possible explanations as to why some participants did not employ any decision strategies. One explanation for this finding may be that participants' responses were inconsistent to the variables across the 32 vignettes, either because they did not interpret the operationalizations of the variables in a similar manner (e.g. some behaviours seen as more salacious than others) or were not attending closely to the content of the alibis. Another possible explanation, however, is that many participants were unsure how to make veracity judgments in the absence of any external corroborating physical and/or person evidence (e.g. Olson & Charman, 2012; Olson & Wells, 2004). Participants may have been less focused on the details of the event that the alibi provider reported being engaged in, and were more focused on whether or not the event could be verified with any external evidence. Some subjective evidence for this explanation comes from the participants' responses to the open-ended question where they reported looking for ways to verify an event regardless of its nature. As one participant said, 'If the alibis involve using something that can be tracked (making phone calls, emailing, etc.) they are a bit more believable but then again, they would need further investigation (check with the phone company, browser history, etc. to verify).' Future studies may consider including external evidence along with the variables contained in this study to assess this speculation.

There are at least three limitations that restrict the generalizability of our results. First, the mock alibis have low ecological validity since the alibi-vignettes used in this study were created by the authors and may not reflect the content or structure of real-world alibis. The decision to create the alibi-vignettes rather than use real alibis was made to control the variables embedded within the alibis, as well as the length of the alibi

statements. Future research should examine whether the variables used in this study are used in actual alibi statements given by real suspects. Second, the current study focused on the perspective of laypeople (i.e. potential jurors), whereas other alibi policy-capture studies have used police officer and police recruit samples (e.g. Eastwood et al., 2016). However, previous research has found the same pattern of results across participant type (i.e. no difference between laypeople and practitioners), and therefore it is unlikely that different results would be found using a different sample. Third, it is possible that fatigue effects were present. However, the presented order of alibi-vignettes was randomized, which eliminates the possibility of systemic fatigue effects. Furthermore, the use of 32 vignettes is much less than the suggested threshold of 50–80 vignettes used in other policy-capture studies (Aiman-Smith et al., 2002).

Concluding thoughts

In some cases, it is not possible to produce external evidence during an alibi that exonerates the alibi provider from being a suspect in a crime. In situations where no physical or person evidence is present, criminal justice members need to assess alibis based on components found within the alibi. Our findings show that in such situations alibi believability is lowered in the presence of illegal or salacious behaviour. This finding is important because it highlights potential biases in alibi assessment when there is an absence of hard evidence – innocent suspects who report being engaged in any morally questionable or unrelated illegal behaviour during the crime’s time frame may receive increased investigative attention and heightened difficulty in convincing investigators of their innocence of the crime in question. Given that initial investigative decisions have the power to influence later legal outcomes, paired with the fact that an alarming volume of wrongful convictions have occurred in Canada and the US due in part to alibis not being fully assessed, it is imperative that alibi evaluators be aware of these biases and carefully consider their alibi judgment decisions. Future research should continue to investigate the factors that underlie alibi believability decisions, while also conducting field-examinations to determine the frequency of wording and event details within actual alibis.

Note

1. We chose to not pursue analyses of the ‘further questioning’ measure. This decision was made because we did not specify whether the further questioning was for the crime under current investigation, or some other crime. This was specifically a problem because of the illegal/legal condition, which included admitting to other illegal behaviours. Consequently, we could not distinguish whether participants were choosing to bring in the suspect for the initial crime (i.e. homicide in apartment building), or because of their admission of different crimes (i.e. events contained in alibi). Therefore, this measure is not discussed any further in this paper.

Acknowledgements

We would like to thank Kirk Luther for his helpful assistance and intellectual comments in completing this research.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

Support for the research reported in this paper was provided to the second and last authors by the Social Sciences and Humanities Research Council of Canada (Grant #430-2014-00860).

References

- Aiman-Smith, L., Scullen, S. E., & Barr, S. H. (2002). Conducting studies of decision making in organizational contexts: A tutorial for policy-capturing and other regression-based techniques. *Organizational Research Methods, 5*, 388–414. doi:10.1177/109442802237117
- Allison, M., & Brimacombe, C. A. E. (2010). Alibi believability: The effect of prior convictions and judicial instructions. *Journal of Applied Social Psychology, 40*, 1054–1084. doi:10.1111/j.1559.1816.2010.00610.x
- Allison, M., Jung, S., Sweeney, L., & Culhane, S. E. (2014). The impact of illegal alibi activities, corroborator involvement and corroborator certainty on mock juror perceptions. *Psychiatry, Psychology and Law, 21*, 191–204. doi:10.1080/13218719.2013.803275
- Allison, M., Mathews, K. R., & Michael, S. W. (2012). Alibi believability: The impact of salacious alibi activities. *Social Behavior and Personality: an international journal, 40*, 605–612. doi:10.2224/sbp.2012.40.4.605
- Altschuller, S., & Benbunan-Fich, R. (2009). Is music downloading the new prohibition? What students reveal through an ethical dilemma. *Ethics and Information Technology, 11*, 49–56. doi:10.1007/s10676-008-9179-1
- Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology, 5*, 323–370. doi:10.1037/1089-2680.5.4.323
- Crandall, J. E. (1975). 'Negativity bias' in evaluative ratings. *The Journal of Social Psychology, 95*, 109–116. doi:10.108000224545.1975.9923241
- Culhane, S. E., & Hosch, H. M. (2004). An alibi witness' influence on mock jurors' verdicts. *Journal of Applied Social Psychology, 34*, 1604–1616. doi:10.1111/j.1559-1816.2004.tb02789.x
- Culhane, S. E., & Hosch, H. M. (2012). Changed alibis: Current law enforcement, future law enforcement, and layperson reactions. *Criminal Justice and Behavior, 39*, 958–977. doi:10.1177/0093854812438185
- Culhane, S. E., Hosch, H. M., & Kehn, A. (2008). Alibi generation: Data from U.S. Hispanics and U.S. Non-Hispanic whites. *Journal of Ethnicity in Criminal Justice, 6*, 177–199. doi:10.1080/15377930802243395
- Culhane, S. E., Kehn, A., Horgan, A. J., Meissner, C. A., Hosch, H. M., & Wodahl, E. J. (2013). Generation and detection of true and false alibi statements. *Psychiatry, Psychology and Law, 20*, 619–638. doi:10.1080/13218719.2012.729018
- Cutler, B. L. (2011). *Conviction of the innocent: Lessons from psychological research*. Washington, DC: American Psychological Association.
- DePaulo, B. M., Lindsay, J. J., Malone, B. E., Muhlenbruck, L., Charlton, K., & Cooper, H. (2003). Cues to deception. *Psychological Bulletin, 129*, 74–118. doi:10.1037/0033-2909-129.1.74
- Dhami, M. K. (2003). Psychological models of professional decision making. *Psychological Science, 14*, 175–180. doi:10.1111/1467-9280.01438
- Dysart, J. E., & Strange, D. (2012). Beliefs about alibis and alibi investigations: A survey of law enforcement. *Psychology, Crime & Law, 18*, 11–25. doi:10.1080/1068316X.2011.562867
- Eastwood, J., Snook, B., & Au, D. (2016). Safety in numbers: A policy-capturing study of the alibi assessment process. *Applied Cognitive Psychology*. Advance online publication. doi:10.1002/acp.3200
- Fleiss, J. L. (1981). Balanced incomplete block designs for inter-rater reliability studies. *Applied Psychological Measurement, 5*, 105–112. doi:10.1177/014662168100500115
- Greene, E., & Dodge, M. (1995). The influence of prior record evidence on juror decision making. *Law and Human Behavior, 19*, 67–78. doi:10.1007/BF01499073
- Inbau, F., Reid, J., Buckley, J., & Jayne, B. (2013). *Criminal interrogation and confessions*. Burlington, MA: Jones & Bartlett.
- Innocence Canada. (2016). Exonerations. Retrieved from <https://www.aidwyc.org/cases/historical/>

- Innocence Project. (2016). The cases and exonerees profile. Retrieved from <http://www.innocenceproject.org/cases/>
- Jambon, M. M., & Smetana, J. G. (2012). College students' moral evaluations of illegal music downloading. *Journal of Applied Developmental Psychology, 33*, 31–39. doi:10.1016/j.appdev.2011.09.001
- Jung, S., Allison, M., & Bohn, L. (2013). Legal decision-making on crimes involving an alibi. *Applied Psychology in Criminal Justice, 9*, 45–58. doi:10.1348/135532506X114301
- Kassin, S. M., Drizin, S. A., Grisso, T., Gudjonsson, G. H., Leo, R. A., & Redlich, A. D. (2010). Police-induced confessions: Risk factors and recommendations. *Law and Human Behavior, 34*, 3–38. doi:10.1007/s10979-009-9188-6
- Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics, 33*, 159–174. doi:10.2307/2529310
- Loftus, E. (1979). The malleability of human memory: Information introduced after we view an incident can transform memory. *American Scientist, 67*, 312–320.
- Milne, R., & Bull, R. (2003). *Investigative interviewing: Psychology and practice*. Chichester: Wiley.
- Nieuwkamp, R., Horselenberg, R., & van Koppen, P. J. (2016). A lie and a mistress: On increasing the believability of your alibi. *Psychiatry, Psychology and Law, 23*, 733–745. doi:10.1080/13218719.2016.1142934
- Olson, E. A., & Charman, S. D. (2012). 'But can you prove it?'—Examining the quality of innocent suspects' alibis. *Psychology, Crime & Law, 18*, 453–471. doi:10.1080/1068316X.2010.505567
- Olson, E. A., & Wells, G. L. (2004). What makes a good alibi? A proposed taxonomy. *Law and Human Behavior, 28*, 157–176. doi:10.1023/B:LAHU.0000022320.47112.d3
- Raskin, D. C., & Esplin, P. W. (1991). Statement validity assessment: Interview procedures and content analysis of children's statements of sexual abuse. *Behavioral Assessment, 12*, 265–291.
- Sapir, A. (2005). *The LSI course on scientific content analysis (scan)*. Phoenix, AZ: Laboratory for Scientific Interrogation.
- Simons, D. J., & Chabris, C. F. (2011). What people believe about how memory works: A representative survey of the U.S. population. *PLoS ONE, 6*, e22757. doi:10.1371/journal.pone.0022757
- Skolnick, P., & Shaw, J. I. (2001). A comparison of eyewitness and physical evidence on mock-juror decision making. *Criminal Justice and Behavior, 28*, 614–630. doi:10.1177/009385480102800504
- Skowronski, J. J., & Carlston, D. E. (1989). Negativity and extremity biases in impression formation: A review of explanations. *Psychological Bulletin, 105*, 131–142. doi:10.1037/0033-2909.105.1.131
- Steller, M., & Köhnken, G. (1989). Criteria based statement analysis. In D. C. Raskin (Ed.), *Psychological methods in criminal investigation and evidence* (pp. 217–245). New York, NY: Springer.
- Undeutsch, U. (1967). Beurteilung der glaubhaftigkeit von aussagen. In U. Undeutsch (Ed.), *Handbuch der psychologie: Forensische Psychologie*. (Vol. 11, pp. 26–181). Göttingen: Hogrefe.
- Vrij, A. (2005). Criteria-based content analysis: A qualitative review of the first 37 studies. *Psychology, Public Policy, And Law, 11*, 3–41. doi:10.1037/1076-8971.11.1.3
- Vrij, A. (2015). Verbal lie detection tools: Statement validity analysis, reality monitoring, and scientific content analysis. In P. A. Granhag, A. Vrij, & B. Verschuere (Eds.), *Detecting deception: Current challenges and cognitive approaches* (pp. 3–35). West Sussex: John Wiley.

Appendix

Note: Bolded and bracketed portions were not shown to participants.

Vignette 1 (Non-Salacious Behaviour, Illegal Activity, Change in Details, Essential Details Mentioned, Specific Temporal Detail Mentioned)

I was in my apartment during that timeframe. **At 10:00** (Specific Detail) **I started making fake IDs** (Illegal Activity) for 10 high school kids that live in the next building. **I spent 30 minutes getting the pictures and personal information together and printing the IDs** (Non-Salacious Behaviour). The industrial laminator that I use takes around 20 minutes for that many IDs, so I wasn't finished the entire process until 10:50. **Come to think of it** (Change in Details), **I did take a break before laminating the IDs to iron my clothes for work tomorrow** (Relevant Essential

Details mentioned for timeline), so I probably wasn't finished until around 11:10. But I was definitely at home the entire time.

Vignette 32 (Salacious Behaviour, Legal Activity, No Change in Details, Superfluous Details Mentioned, Vague Temporal Detail)

I was at home the entire evening (Vague in actual time). I spent the whole night trying to clean semen stains in my clothes and bedding. **I laid down for a nap after work** (Legal Activity) and at some point **I started having a pretty kinky sex dream and I ended up having a wet dream** (Salacious Behaviour). There was semen all over my good clothes and expensive bed sheets, and I spent the rest of the evening try to hand wash everything so it wouldn't be ruined. **I don't think I've had a wet dream like that since I was a teenager, I thought those days were gone** (Superfluous Details). So just cleaning up the mess I made all night. I definitely was in my apartment the whole time. (No changes in story's details).