

Confidently Wrong: Police Endorsement of Psycho-Legal Misconceptions

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Abstract Public beliefs about psychological issues relevant to the legal system have been demonstrated to often be misconceived, but the endorsement of such beliefs in law enforcement samples is largely unknown. This study was the first to compare psycho-legal beliefs between law enforcement officers and the general public in the UK. Participants were presented a 50-item questionnaire measuring five psycho-legal topics; police procedures, courts, tough on crime, mental illness, and memory and cognition. Despite direct involvement and relevant experience, law enforcement officers endorsed just as many empirically contradictory beliefs as those who were not law enforcement officers. Further, law enforcement officers were more confident in their responses. This research has implications for identifying areas of limited knowledge within police samples that can be targeted by police education.

Keywords Law enforcement · Law · Psychology · Evidence-based policing · Police reform

Policing relies on a basic understanding of psychological principles in order to, among other things, extract reliable information from witnesses, elicit confessions, and understand relationships between perpetrators and victims. While this relevance seems clear, scientific and pseudoscientific psychology can be difficult for professionals to distinguish, so the successful and appropriate application of psychology to policing can

prove problematic. This has been substantiated by a review article by Snook (2008), which found that the field of policing was riddled with pseudoscientific beliefs. The research demonstrated misconceptions about topics such as confession evidence, witness memory, police behavior, criminal behavior, and lineup construction. Some of these pseudoscientific beliefs were even entirely counter-empirical - being the opposite of what researchers would argue to be ‘best practice’. These kinds of counter-empirical beliefs have led to problematic policing practices, including situations involving wrongful convictions and media scandals.

One of the most recent examples of this occurred in April of 2015, when the Federal Bureau of Investigations (FBI) publically announced that a widely used type of hair analysis was severely flawed. According to a notice issued by the FBI, the technique was in use for decades, yet at least 90% of the forensic examiners’ testimony statements were problematic and may have contributed to miscarriages of justice (Federal Bureau of Investigation 2015). This has led to a major ongoing investigation aimed at finding and exonerating those who may have been wrongfully convicted because of this faulty hair analysis technique. Worryingly, some of these innocents may have already served years in prison before the practice was debunked as junk science. In light of such a reveal, it seems appropriate to continue to pursue investigations into what knowledge legal professionals have, and how much of that knowledge is actually backed up by science.

Unfortunately the existence of misconceptions and junk science seem to be the norm rather than the exception amongst professional groups. According to an article by Tavris (2003), pseudoscientific beliefs were found to be common in many professional circles, including clinical psychology, medicine, and engineering. There has even been warning of a widening science-practice gap (e.g., Patihis et al. 2014a; Lilienfeld et al. 2012, 2015), with concern expressed about the continued use

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of scientifically unsupported methods by practitioners and the implications of such misconceived beliefs. The work that scientists do simply does not always get disseminated appropriately to the practitioners who could apply it within their field. Legal professionals are among those affected by this schism, and they have repeatedly been shown to fall prey to pseudoscience. It seems that, as Lilienfeld and Landfield (2008) argued, law enforcement will continue to unintentionally mix legitimate and illegitimate beliefs unless the warning signs of pseudoscience are better understood.

Science-Practice Gap

Specific research on the science-practice gap calls into question the kinds of claims often endorsed by legal professionals. Turtle and Want (2008) are among those who have tackled misconceptions regarding memory and police identification procedures, and have tried to debunk existing myths about flashbulb and photographic memories - neither of which have substantial scientific support. Similarly, Snook (2008) has summarized the literature on criminal profiling, and argued that law enforcement officers and the public often have accepted profiling as an appropriate procedure, despite it having no sound theoretical basis or empirical support. The belief in repressed memories in both psychotherapy and policing has also been called into question, and many neurological and psychological scientists have argued that there is no empirical support for the notion of repression (Patihis et al. 2014b), despite its continued acceptance by some practitioners (Patihis et al. 2014a).

'Common-sense' notions about evidence in policing have also come under heavy attack over the past decade. In one article, Kassin (2008) reviewed and challenged myths common to the police forces he has studied and worked with over the course of his career. Kassin argued that included among these common-sense counter-empirical beliefs are; that interviewers can accurately detect deception and truth-telling; that right to silence waivers (e.g., the Miranda waiver) protect the innocent; that innocent people do not falsely confess to crimes they did not commit; and that false confessions can be easily spotted by professionals. All of these notions have been debunked repeatedly, yet seemingly continue to be endorsed by many legal professionals.

Additional research on deception also points to misunderstanding and over-confidence in deception detection ability by law enforcement officers. For example, in an article on the polygraph - a deception detection tool - Iacono (2008) disputed the usefulness of the most popular polygraph technique in policing; the Control Question Technique (CQT). Iacono (2008) claimed this technique had a weak theoretical basis, was biased against the innocent, and could be cheated with countermeasures. The fact that many police officers still use

such an outdated technique indicates a lack of understanding or awareness of the constantly evolving scientific research on deception detection. Further emphasizing misconceived deception detection beliefs, in a now classic study by Vrij and Mann (2001), uniformed police officers were asked to detect deception for high-stakes lies. Police in this experiment performed no better than chance and accuracy was not related to confidence, age, years of experience in policing, or the level of interviewing experience. It appears that while the research is clear that most people, including the police, often struggle to detect deception, this does not seem to be acknowledged in many of the practices of legal professionals.

This converging research points to the continued existence of a scientist-practice gap affecting law enforcement (Lilienfeld et al. 2015). Despite the possible detrimental outcomes of this gap, much of the reviewed literature focuses exclusively on the scientific validation of police procedures, rather than asking law enforcement officers themselves about their endorsement of pseudoscientific beliefs. Law enforcement officers may be an inherently hard sample to obtain due to common practical and policy-related barriers, but asking them directly about their beliefs can prove very informative. For example, a review article by Aamodt (2008) found that law enforcement officers even endorsed a variety of myths relevant directly to the lives of the police, with police themselves believing erroneously that divorce rates are exceptionally high within their profession, although in reality they fall below the national average. This suggests that police can even be misconceived about very personal aspects of their own profession.

A bigger study, that asked the police directly about their endorsement of psycho-legal beliefs, has been conducted by Meyer and Reppucci (2007). In this study the authors conducted the first thorough investigation of law enforcement officer beliefs about the reliability of common police practices and police beliefs about child development. 332 US law enforcement professionals completed the survey. Based on this, the researchers argued that law enforcement officers perceived that youth are generally the same as adults in mental development and suggestibility and, as such, should be treated like adults. This is a counter-empirical belief because researchers have shown that youths are more suggestible and easily influenced in interrogation settings than adults (Bruck and Ceci 1999), which can also make them more likely to falsely confess to crimes they did not commit (Redlich and Goodman 2003). Work by Karagiorgakis (2010) has also substantiated the existence of profession-specific counter-empirical beliefs. The author examined a sample of California police officers, and he argued that his results showed a limited understanding of factors that have been known to influence eyewitnesses - including lineup procedures and adverse identification situations. To date these are some of the only studies that exclusively investigate counter-empirical beliefs by directly asking

law enforcement samples, so there seems to be much room for further research directly measuring the potentially misconceived beliefs of this population.

Experience-Accuracy Link

While the research summarized up to now points to extensive science-practice gaps, there is also some research which suggests that increased knowledge of a topic is likely to be linked to a reduction of misconceived beliefs. This is exemplified by a review of counter-empirical beliefs about youth crime and justice by Roberts (2004), which demonstrated that those who knew more about youth crime from training and education were more likely to have accurate beliefs when compared to those lacking such knowledge. Further in support of this, other researchers have found that through relevant education, the existence of psycho-legal counter-empirical beliefs can be directly decreased (Shaw and Woodworth 2013; Taylor and Kowalski 2004). Similarly decreasing misconceptions, professionals have been successfully taught to become better at deception detection through one-day training, which focused on dispelling deception detection myths and replacing them with evidence-based methods (Shaw et al. 2013).

As beliefs tend to be based on previous experience and training, so it could be anticipated that professionals who have specialized knowledge, including police officers, should hold fewer counter-empirical beliefs about law-related issues. Training on interrogation and police procedures is standard for many legal professionals (e.g., Shawyer et al. 2009), and this has the potential to decrease misconceptions. It is also possible that differences in the nature and type of evidence-based training that law enforcement officers receive could affect these rates. For example, in the United Kingdom (UK) law enforcement officers receive extensive training on topics that are often less covered in North America, such as empirically guided interview training (Shawyer et al. 2009). This may lead to more noticeable differences between trained law enforcement officers and the general population in the UK than in previous studies in North America.

While the experience-accuracy link sounds plausible, this is not consistently backed-up by existing research. Instead, studies substantiate a so-called insight gap (e.g., Mehdizadeh et al. 2014) - where there is a gap between perceptions of knowledge (as represented by confidence) and actual knowledge of a topic. For instance, two US studies found that police officers held misconceived beliefs about eyewitness accuracy (Karagiorgakis 2010) and interrogation procedures (Meyer and Reppucci 2007), and they did so at the same levels as lay college samples. This calls into question whether there actually is a positive effect of experience on counter-empirical beliefs. Further evidence of this accuracy gap can also be found by law enforcement officers having higher confidence than student samples in their ability to detect

deception, despite their actual performance often being no different (Strömwall and Granhag 2003). Similarly, confidence is often perceived to be an indicator of eyewitness memory accuracy, although people can clearly have high confidence in completely erroneous memories and low confidence in accurate memories (Leippe and Eisenstadt 2014). It seems that confidence and accuracy do not necessarily coincide, even in professional policing samples.

Present Study

Like previous advocates, we believe that the identification and refutation of counter-empirical beliefs is a necessary and beneficial component of promoting best practices in policing. In order to identify relevant areas in need of training and review, we believe it is valuable to examine directly whether there is an experience-accuracy link, an insight gap, and/or a science-practice gap in UK law enforcement. These kinds of false beliefs can lead to sub-optimal or even problematic police practices, as legal officers who hold misconceptions may apply techniques that have been empirically shown to lead to miscarriages of justice.

The present study compared psycho-legal counter-empirical belief endorsement and belief confidence between law enforcement officers and members of the general public. This study was the first to measure psycho-legal belief endorsement in the UK and was the most topically comprehensive measure of such beliefs within a law enforcement sample to date. In this study, the first research hypothesis was that law enforcement officers would have fewer counter-empirical beliefs than members of the general public. This was expected because law enforcement officers in the UK have specialized training and relevant experience, which should make them more knowledgeable about psycho-legal issues than the general public. The second research hypothesis was that law enforcement officers would have higher confidence in their psycho-legal beliefs than members of the general public. This was expected because working in policing has previously been linked with increased confidence in policing-related abilities such as deception detection (e.g., Vrij and Mann 2001).

Method

100 participants completed the study. Of these, 44 worked in law enforcement and 56 did not. The average age of the law enforcement professionals was 32.39 (Range 20-63; $SD=12.16$); 20 were female and 22 were male. All law enforcement professionals were recruited via an email sent internally by an urban UK police authority. The average age of the participants who did not work in law enforcement was 30.57

(Range 18–65; $SD=13.37$); 36 were female and 20 were male. Those not involved in law enforcement were recruited via posters and social media adverts, and were mostly obtained from outside of a university setting. All 100 participants identified as ethnically White and reported that English was their first language.

All participants were given an online questionnaire comprised of 50 true/false items that measured counter-empirical beliefs at the intersection of psychology and the law. Participants were asked to rate confidence in each of their answers on a 5-point scale, from (1), meaning not confident to (5), which meant very confident. The psycho-legal beliefs questionnaire was originally developed and utilized by Shaw and Woodworth (2013), who developed it through a thorough review of the literature and an expert-panel review process. This type of questionnaire is standard in the misconception literature (as suggested by Taylor and Kowalski 2004).

The psycho-legal beliefs questionnaire consisted of five sub-scales. The police procedures and interrogations subscale included counter-empirical beliefs that are directly relevant to law enforcement, such as “police can tell when a suspect is lying”, and “people only confess when they have actually committed the crime they are being charged with”. The courts subscale included counter-empirical beliefs such as “most judges and jurors fully understand court instructions”, and “eye-witnesses are always the most reliable source of case-related information”. The tough on crime subscale included counter-empirical beliefs such as “we need to be ‘tough on crime’ by giving convicted felons harsher punishments”, and, “capital punishment (the death sentence) is an effective way to deter criminal activity”. The mental illness subscale included counter-empirical beliefs such as “most mentally ill individuals are violent”, and, “all psychopaths are criminals”. The memory and cognition subscale included counter-empirical beliefs such as “all memory is better for exciting events”, and “if you are the victim of a violent crime, your memory for the perpetrators face will be perfect”. The complete list of questionnaire items is listed in the [appendix](#). We also recommend referring to the original article by Shaw and Woodworth (2013), which reviewed substantial empirical support for the items included in the questionnaire.

Results

Counter-Empirical Beliefs Counter-empirical beliefs were operationalized as statements that were contrary to widely accepted beliefs as reflected by the current research literature. Counter-empirical beliefs can also be referred to as misconceptions, pseudoscientific beliefs, or myths. The sum of correctly endorsed counter-empirical psycho-legal statements was calculated for each participant, producing overall endorsement scores, and scores for each subscale.

Overall Participants who were not law enforcement officers endorsed 19.43 ($SD=6.17$; 95% CI [17.81, 21.05]) out of a possible 50 counter-empirical psycho-legal beliefs on average, and law enforcement officers endorsed 18.25 ($SD=5.87$; 95% CI [16.52, 19.98]). An independent-samples two-tailed t -test showed that the two samples were not significantly different: $t(98)=0.97$ [$p=0.34$]. This suggests that law enforcement officers and the general population endorsed equal levels of counter-empirical beliefs overall. This is in line with the analysis conducted by Karagiorgakis (2010), who also conducted a comparison between groups and found that law enforcement professionals were as misconceived as lay populations. Additionally, an independent-samples two-tailed t -test showed that when compared to the original Shaw and Woodworth (2013) study results from a Canadian undergraduate sample ($N=256$), the UK lay sample in the present study scored significantly higher at 38% misconception endorsement compared to the original Canadian sample at 32%, $t(354)=3.52$ [$p<0.0005$]. Possible explanations for this result include differences in the samples used, as the average age of the original sample was younger than the present sample, or they could possibly reflect differences between psycho-legal belief endorsement in the two countries.

Sub-Scales Following the same procedure as in the original manuscript by Shaw and Woodworth (2013), independent-samples two-tailed t -tests were conducted to compare the overall counter-empirical belief sub-scale scores for law enforcement officers and the general population. Details of all t -tests are presented in Table 1. The only significant difference was found in the *courts* subscale, $t(98)=2.71$ [$p=0.008$]. The magnitude of this difference was moderate ($d=0.55$). This suggests that on all issues, except for information related to the courts, the same number of counter-empirical beliefs was held by laypeople and participants who were involved in law enforcement.

Item-by-Item Following the same procedure as in the original manuscript by Shaw and Woodworth (2013), independent sample two-tailed tests, with Bonferroni corrected alpha levels for repeated testing (adjusted to $p \leq 0.001$), were conducted for each item. These item-by-item counter-empirical beliefs were compared for those who were and were not in law enforcement and showed no significant differences between the two groups.

Confidence There were higher confidence ratings overall for the law enforcement officers ($\bar{x}=3.79$ [on a 5-point scale], $SD=0.53$) than for those who were not law enforcement officers ($\bar{x}=3.55$, $SD=0.62$). An independent-samples two-tailed t -test showed that these were significantly different ($t(98)=2.07$, $p=0.043$) and had a small-to-medium effect size of $d=0.42$. Law enforcement officers, despite endorsing the same

Table 1 Misconception endorsement by subscale percentage

Subscale	Law enforcement officer		<i>t</i> (<i>df</i> =97)
	Yes	No	
Police interrogations and procedures	47.5% (16.9)	49.3% (15.4)	-0.55 (<i>p</i> =0.59)
Courts/Service Provision	48.6% (17.2)	56.5% (18.1)	-2.16* (<i>p</i> =0.03)
Mental illness	20.7% (14.9)	24.7% (18.2)	1.19 (<i>p</i> =0.24)
Memory and cognition	33.9% (17.2)	33.3% (12.2)	0.19 (<i>p</i> =0.85)
Tough on crime	46.9% (17.0)	46.1% (19.07)	0.22 (<i>p</i> =0.83)

Note. *=Value is statistically significant at $p \leq 0.05$. Standard Deviations appear in parentheses below means. Significance levels appear in parentheses below *t*-value. Percentages of misconception endorsement on this questionnaire should not be taken to indicate that the same amount of the total knowledge individuals have in that area in general is incorrect.

number of counter-empirical beliefs, were more confident in their responses.

Across both groups, participants had higher confidence for accurate beliefs ($\bar{x} = 2.34$, $SD = 0.62$) than for misconceptions ($\bar{x} = 1.31$, $SD = 0.62$). A dependent-samples two-tailed *t*-test showed that these were significantly different ($t(99) = 10.43$, $p < 0.0001$). There was also a strong positive correlation between accuracy and confidence ($r = .88$, $p < .0001$). This means that while law enforcement officers were more confident in their misconceptions than those who were not law enforcement officers, there was a positive association between accuracy and confidence for participants overall.

Discussion

The first research hypothesis was that our sample of law enforcement officers would have fewer counter-empirical beliefs than members of the general public. Our findings, however, did not support this. Despite access to such privileged experiences and training, our sample of UK law enforcement professionals endorsed broadly the same number of psycho-legal counter-empirical beliefs as our lay sample. This lends support to the idea of a science-practice gap in legally relevant psychological topics; an issue that has been of concern to previous researchers (e.g., Patihis et al. 2014a, b). It seems that the law enforcement professionals in our sample either were not taught, or did not internalize, the evidence-based beliefs tested by this questionnaire. These findings are line with those reported by Meyer and Reppucci (2007), where law enforcement officer views of interrogating young suspects were largely misconceived, and Karagiorgakis' (2010) study, where law enforcement officers were as misconceived as college students about eyewitness-related factors.

It was expected that, because of the increased training and relevant experience that law enforcement officers in the UK have compared to laypeople, they would perform better on the questionnaire overall, or at least on particular subscales. When broken down into the five questionnaire subscales, law enforcement officers were indeed found to endorse fewer counter-empirical beliefs on one scale - court procedures. This suggests that law enforcement officers demonstrated a greater understanding of the courts than the general public. This was to be expected, given the direct contact that law enforcement officers have with the court system - something that is mostly foreign to many members of the broader public. If a larger sample had been obtained, it is possible that these differences may have been amplified, further emphasizing the advanced knowledge that law enforcement officers have in this particular area.

While this difference is promising, it was surprising to us that these differences were only found on the court procedures sub-scale, and not also on the police interrogation and procedures sub-scale. The reason this is surprising is because many UK police officers have mandatory attendance at empirically-guided interview training (Shawyer et al. 2009). As such, it was expected that police would have specialized knowledge on this topic, which would lead to them endorsing fewer misconceptions on the police interrogations and procedures sub-scale. It was also expected that police would have a better understanding of what works and what does not regarding punitive sanctions, as measured by the tough on crime sub-scale. Tough on crime policies have been heavily criticized by the relevant academic literature as being contrary to effective crime prevention and rehabilitation (e.g., Cook and Roesch 2011; Eilkann 1996). We had expected this information to penetrate the British correctional system. Similarly, the importance of topics such as memory, cognition, and mental illness

for interviewing led to a hope that police would be privy to expert information about these topics. However, none of these subscales showed indication of further training or understanding by law enforcement professionals when compared to laypeople. When delving from the sub-scales to individual items on the questionnaire, the differences between lay and law enforcement participants again disappeared. After statistical correction for repeated tests, no single item on the questionnaire showed a significant difference in endorsement for lay and legal participants. There appears to be no support for a positive experience-accuracy relationship.

Making matters worse, it appears that our second research hypothesis has been confirmed. The second research hypothesis was that law enforcement officers would have higher confidence in their psycho-legal beliefs than members of the general public. This would only have been a positive outcome if law enforcement officers had also scored lower on counter-empirical beliefs. As it is, this suggests that despite endorsing the same number of counter-empirical beliefs, law enforcement officers in our sample were more confident that the misconceived answers they were providing were correct. This is in line with previous researchers finding that police may have increased confidence in policing-related abilities such as deception detection, even when actual skill or knowledge are lacking (e.g., DePaulo et al. 1997; Vrij and Mann 2001). These findings therein support the notion of a small but significant insight gap (as discussed by Patihis et al. 2014a, b), as our sample of UK law enforcement officials demonstrated an even greater gap between perceptions of knowledge (as represented by confidence) and actual knowledge of psycho-legal topics than laypeople.

Overall, this study supports the existence of a science-practice gap in UK law enforcement professionals. To address this, researchers in the UK may need to be more active in disseminating the messages that result from empirical research. One way this could be done is through additional police training, as previous research has suggested that evidence-based approaches to policing can be taught. In an experimental examination of the effectiveness of investigative interviewing courses for UK police officers, McGurk et al. (1993) found that, after training, officers demonstrated increased knowledge on a written examination, and demonstrated enhanced interview skills up to six months later. While this is promising, given that similar training to that examined by McGurk and colleagues is still administered widely in the UK today, this does lead to questions around the generalizability of the knowledge to interviewing more generally. It may also lead us to wonder whether some of the training methods need updating to be in-line with current psych-law research.

In another UK police training success story, Dando and Bull (2011) trained a group of police officers to effectively use an evidence-based procedure called tactical interviewing, which led to the police achieving a far higher detection of both

truth tellers and liars than other kinds of more common police interviewing. These are but two of the many studies which support the idea that psycho-legal misconceptions in law enforcement samples can be reduced and replaced with more evidence-based approaches. While police training regarding many of the topics covered by the psycho-legal beliefs questionnaire administered in this study have not been directly researched, it seems reasonable to assume that targeted knowledge training on these specific issues could be successful.

Before effective training can be administered, the findings presented here require further investigation to help spell out the exact facets of policing that currently demonstrate needs for a strengthened evidence base. Dando et al. (2008) administered a questionnaire to 221 UK young police officers to examine their perceived witness interviewing practices. While this questionnaire was not focused directly on psychological misconceptions, it did give us insight into gaps between suggestions and practice, indicating that just because police were taught something it did not mean it would necessarily be applied. The officers in this study claimed that some of the components of the PEACE model of cognitive interviewing were used more commonly than others in actual policing, and that they perceived some components to be more effective than others. The authors also claimed that their results indicated a difficulty in the application and appreciation of complex interviewing information during police training. Presenting evidence-based information seems not to be enough, as training needs to be bespoke and easily digestible for the group it hopes to inform.

It therefore appears, in certain respects, that not all police training is equally effective. Questionnaires like the one examined in this study may be able to help identify specific needs for training within a particular group, and help measure the efficacy of a program if administered post-training. The psycho-legal beliefs questionnaire used in this study was indeed intended and previously used as a repeated measure (Shaw and Woodworth 2013). In the original study the researchers observed a consistent and notable decrease in counter-empirical psycho-legal beliefs from before taking a psychology and law course to after, suggesting that misplaced beliefs could be successfully changed through educational programs.

This study represents a number of firsts, which may help contribute to the general movement towards evidence-based policing in the UK. A number of limitations should, however, also be mentioned. First, the present study did not differentiate between the levels of law enforcement. Meyer and Reppucci (2007) found that levels of interrogative counter-empirical beliefs varied across policing ranks; therefore, different levels of counter-empirical beliefs may be evidenced across different law enforcement officer ranks. This suggests that future research on psycho-legal beliefs would benefit from further fine-tuning the examination of differences within police

forces. Second, as this questionnaire focused on psycho-legal beliefs, it is likely that law enforcement officers were informed about topics that were not measured here. It is important to consult with law enforcement officers and make an effort to capture additional knowledge strengths of the law enforcement officers in future research. Finally, because of access limitations, this study was conducted on a single police force in the UK. While there is no particular reason why this police force should differ in any systematic way from other forces, this cannot be ruled out. Future research could examine counter-empirical belief endorsement across more forces across the UK to get a more representative picture of current strengths and weaknesses in being evidence-based.

Summary and Relevance for Policing

This study represents a first step into research on the counter-empirical belief endorsement of law enforcement officers in the UK. Particular areas were identified as needing more evidence-based knowledge, notably: interrogations; tough on crime policies; mental illness; and memory and cognition. We briefly discussed the impact that these counter-empirical beliefs may have on law enforcement, potentially contributing to poor police procedures and miscarriages of justice. As this is a relatively new area of research it is recommended that counter-empirical beliefs within law enforcement officers be studied further. If similar findings are reported from additional studies, the introduction of a knowledge-based training course for law enforcement officials is recommended to help reduce the existing science-practice gap. This would likely be constructive, as researchers have previously found a reduction in counter-empirical beliefs through relevant education (Shaw and Woodworth 2013; Kowalski and Taylor 2009). This research provides a questionnaire that can be used to monitor misconception prevalence and tailor such training.

Appendix

Full set of counter-empirical beliefs from psycho-legal beliefs questionnaire, broken down by sub-scale. For background review of the literature supporting each of these statements as misconceived, please refer to Shaw and Woodworth 2013.

Police Interrogations and Procedures

- 1 Good cop/Bad cop is an effective means of truth-seeking
- 2 People are not good at detecting lying
- 3 The ultimate goal of any interrogation should be gaining a confession
- 4 People only confess when they have actually committed the crime they are being charged with
- 5 Pressuring individuals to confess is the best way to find out the truth
- 6 Police can tell when a suspect is lying
- 7 When people lie, they look up and to the left
- 8 Most police have received training on how to deal with mentally ill victims/offenders
- 9 In-person lineups are the best way for police to narrow down a suspect
- 10 Most guilty suspects do not lie in interrogations

Courts

- 1 Eye-witnesses are always the most reliable source of case-related information
- 2 Eye-witnesses are not the most important piece of evidence in most convictions
- 3 Most Judges and Jurors fully understand court instructions
- 4 Judges and Jurors are good at remembering all the details mentioned during a trial
- 5 The Insanity Plea is typically used by offenders who are trying to avoid jail
- 6 Judges are good at detecting deception
- 7 DNA evidence is all that is needed to convict an individual, because it proves he/she was at the scene
- 8 Incarcerated offenders usually have access to education while imprisoned

Mental Illness

- 1 Most mentally ill individuals are violent
- 2 Most individuals in incarcerated settings are mentally ill
- 3 The courts know how to effectively deal with mentally ill suspects/victims
- 4 All offenders have access to appropriate rehabilitation services
- 5 Upon release, most offenders are provided with help they need to reintegrate into the community
- 6 All Psychopaths are criminals
- 7 All serial-killers are Psychopaths
- 8 All imprisoned offenders have major mental disorders

Tough on Crime

- 1 Sentencing offenders to Prison/Jail is a good way to punish them
- 2 Individuals are less likely to offend again if they have been incarcerated in a prison/jail
- 3 Imprisonment is the best way to deal with offenders
- 4 Diversion to community service work instead of imprisonment is not good
- 5 Individuals who are granted the insanity plea, and are mandated to treatment instead, are 'getting off easy'
- 6 Most incarcerated offenders are reconvicted

- 7 Threatening offenders with jail terms is an effective crime deterrent
- 8 Capital Punishment (the death sentence) is not an effective way to deter criminal activity
- 9 The way we currently deal with offenders is very good
- 10 We need to be "tough on crime", by giving convicted felons harsher punishment
- 11 The death penalty is an effective means of reducing local crime rates
- 12 Severely mentally ill adult offenders should be treated judicially the same as minors
- 13 Often, minors between the ages of 13-18 should be held fully responsible for their actions
- 14 Adult mentally ill suspects should be treated the same as normal suspects

Memory and Cognition

- 1 Memory is like a video-camera
- 2 All memory is better for exciting events
- 3 People can have "photographic" memory
- 4 If you are the victim of a violent crime, your memory for the perpetrators face will be perfect
- 5 Only few individuals have bad memory
- 6 When there is a gun present, victims are better at remembering the details of the event
- 7 We never forget the source of our knowledge
- 8 People cannot have memories of things that never actually happened
- 9 We can typically remember things that we did not attend to
- 10 Accurate memories of childhood sexual abuse usually arise years after the abuse

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