The Future of Diversity and Police Legitimacy - Does Diversity make a difference?

Processing Police Applicants: How can we improve the process?

A Sketch Saves Time
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The *Journal of California Law Enforcement* welcomes articles relevant to the area of law enforcement from its readers.

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California Peace Officers’ Association

Articles Reviewed By
JEFF NOBLE
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The Journal of California Law Enforcement is published quarterly by the California Peace Officers’ Association. 555 Capitol Mall, Suite 1495, Sacramento, CA 95814

The annual paper subscription rate is $40 for CPOA members and $55 for nonmembers. Digital rates can be found at CPOA.org.
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The national discussion on police reform and community relations has been at the forefront for many years. Despite an overall decrease in violent crime in most cities, there is an underlying tension between the police and some communities. Police use of force incidents fueled by social media rhetoric, looping videos and false narratives have created much of this tension and have many questioning the legitimacy of the police profession.

The increased tensions have led to the reluctance of proactive policing by some officers, also known as the “De-Policing or Ferguson effect.” Louisiana State University and PoliceOne news conducted a survey entitled “Policing in a Post-Ferguson Society.” The survey collected 3,346 responses from sworn law enforcement professionals across all ranks and department sizes. The survey concluded that there was a decline in morale among police officers, which has impacted their motivation to work and feeling of safety (Wyllie, 2017).

Some communities have experienced quality of life issues resulting from increased crime and cities have experienced economic impacts related to the police response to the civil unrest. The Ferguson unrest cost tax payers over $5.7 million (Chasmar, 2014), and the city of Baltimore estimates reached $20 million (Wenger, 2015). University of Missouri professor Richard Rosenfeld’s research showed a spike in homicides between 2014 and 2015. The number of murders in 56 large cities rose an average of 17 percent, with 12 cities recording spikes exceeding 50 percent (Maciag, 2016).

According to National Institute of Justice journal, minorities are more likely than whites to distrust law enforcement and will question police legitimacy more often.

David Espiritu is a Captain with the National City Police Department, where he has worked for over 29 years. David has worked a variety of assignments throughout his law enforcement career and currently serving as the Administrative Captain. He is a graduate of the FBI National Academy, Senior Management Institute for Police, POST Command College, POST Supervisor Leadership Institute (SLI) and POST Master Instructor Certification Course (MICC). David holds a Master’s Degree in Management, Bachelor’s Degree in Criminal Justice from National University and an Associate in Science Degree in Administration of Justice from Southwestern Community College.
Police legitimacy is granted when the public recognizes police authority, while the police comply with constitutional, statutory and professional norms. Without legitimacy of law enforcement, police lose their ability to function effectively, which makes it less safe for everyone (National Institute of Justice, 2016). The tensions between police and minority groups suggest that we have reached a crisis point (Oliver, 2016).

How did we reach this crisis?

In 2014, a series of controversial use of force incidents sparked nationwide protests. While most were peaceful protests, ambush style attacks in the city of Dallas and Baton Rouge claimed the lives of eight police officers. Following these and other similar incidents, community trust and support spiraled downward, and citizens across the nation began to question police legitimacy and police officers felt vulnerable.

Some minority groups believe that race is a determining factor for use of force incidents by police officers, which has led to the community distrust of law enforcement. During the 2016 International Association of Chief of Police conference (IACP), IACP President Terrence M. Cunningham apologized for the historical mistreatment of minorities. Chief Cunningham said, “The history of policing had darker periods and laws enacted by the state and federal government required police officers to perform many unpalatable tasks... while this is no longer the case, this dark side of our shared history has created a multigenerational – almost inherited – mistrust between many communities of color and their law enforcement agencies” (Jackman, 2016). Some of this shared history is rooted in the perception that law enforcement could arrest their way out of the many complex social issues that are found in some minority communities. Fifteen years prior to the Los Angeles riots of 1992, Los Angeles Police Department had declared war on gangs and drugs. They believed, as did other law enforcement agencies, that tougher policing was the solution to the crime and violence that plagued the city. Much of the tougher policing took place in the minority communities, making those communities and the police adversaries, not partners. According to LAPD Chief Beck, “Tougher policing most likely contributed to the violence and alienated the police to the point that, in retrospect, the riot was inevitable” (Beck, 2017).

Roland G. Fryer, Jr. a Department of Economic professor at Harvard University explored racial differences in the police use of force. Fryer’s research looked at a variety of data sources, to include: NYC’s Stop and Frisk program and the Police-Public Contact Survey (PPCS), event summaries of officers involved shootings in ten locations across the US, and data on interactions between civilians and police in Houston and Texas. Fryer’s research concluded that there was a large racial difference by police officers with non-lethal use of force. According to Fryer’s research, Blacks and Hispanics are fifty percent more likely to experience some form of force interactions with police. As the use of force increased from putting hands on a civilian to striking them with a baton, the overall probability of such incident occurring decreases, but the racial difference remained constant. On the most extreme use of force – officer involved shootings - he was not able to detect any racial differences (Fryer, 2016).
Political Intervention

On December 18, 2014, President Obama formed a task force of police leaders, community members, advocates and academics. The task force was charged with exploring best practices from across the nation and offer recommendations for effective crime reduction and building public trust (President’s Task Force on 21st Century Policing, 2015). The first of the six pillars highlighted in the final report was “Building Trust and Legitimacy” in the community. The task force recommended systematic and comprehensive diversification throughout a department as one strategy to accomplish this goal (President’s Task Force on 21st Century Policing, 2015).

In response to the task force recommendation, the Department of Justice’s Civil Rights Division (DOJ) and U.S. Department of Justice Equal Employment Opportunity Commission (EEOC) published a report titled Advancing Diversity in Law Enforcement. The research concluded that agency diversity was beneficial to the workforce, and to police-community relations; it identified barriers and promising practices across three key areas: recruitment, hiring and retention. Listed below are some of the promising practices identified during the EEOC research.

Recruitment:
• Proactive targeting of diverse communities to encourage law enforcement career path.
• Partner with educational institutions for internship programs for potential applicants.
• Leverage social media to connect with all community members.

Hiring:
• Holistic view of applicant information revealed during background checks.
• Reconsider selection criteria that does not correspond to job related duties.
• Streamline hiring/selection process and assist applicants with process preparation.
• Involve community members in hiring process.

Retention:
• Institute mentorship program and leadership training.
• Educate community and stakeholders on unique challenges of profession.
• Provide financial incentives for education and language skills (Advancing Diversity in Law Enforcement, 2016).

The research stated, “When members of the public believe law enforcement agencies represent them, understand them, and respond to them, communities are more likely to perceive law enforcement as fair, legitimate and accountable. It deepens trust in law enforcement, instills public confidence in government, and supports the integrity of democracy. This trust is essential to defusing tension, to solve crime and to create a system in which residents view law enforcement as fair and just. This trust also enables officers to more effectively and safely perform their jobs.” Lastly, increased diversity can make law
enforcement agencies more open to reform, more willing to initiate cultural and systemic changes, and more responsive to the community (Advancing Diversity in Law Enforcement, 2016). However, reliance on diversity as a cure-all may not be enough.

**Does Diversity matter?**

Many researchers have explored the concept of having a diverse workforce and its overall impacts on community trust. According to a Newsweek article written by Max Kutner, American law enforcement has never been so diverse. According to the Bureau of Justice, in 2013, around 27 percent of the country’s 477,000 sworn local police officers were racial or ethnic minorities, which is up from 15 percent in 1987. According to Kutner, there are now more female, openly gay, lesbian and transgender police officers. “Today’s police officer is more educated, more technical and received better training and equipment than any other time history.” Despite the improvements in agency diversity, reform advocates believe that some agencies use diversity to mask the need for greater police reform (Kutner, 2016). David Klinger, criminology professor at the University of Missouri recommended that agencies focus on sound policing, rather than race and gender quotas. Federal investigations in some cities suggest police misconduct is systemic, regardless of race. For example, in Cleveland and Seattle, the Justice Department found patterns of excessive force; in Ferguson, it exposed how cops targeted minorities with fines to generate revenue (Kutner, 2016).

The President of the Association for Los Angeles Deputy Sheriffs (ALADS), Ron Hernandez, cautions agencies not to lower standards for the sake of diversity. “Past efforts by law enforcement agencies to lower hiring standards in a manner suggested by the Department of Justice and Equal Employment Opportunity Commission have ended in disaster for those departments. These hiring recommendations include: ignoring criminal convictions, past drug use, and lowering standards on written and psychological exams. Hiring physically unfit, illiterate criminals with potential psychological problems in the name of diversity had disastrous consequences for the Miami Police Department in the 1980s, Washington D.C. police department in the 1990s and Los Angeles Police Department 1990s.” (Hernandez, 2017).

In an article written by Jen Fifield, officials believed that having a diverse police force is only one way of moving forward and the research was mixed as to whether diversity helps reduce tensions. As an example, in Baltimore, the police force is 42 percent black compared to 63 percent of the general population. Despite having a somewhat diverse police force, the U.S. Justice Department said Baltimore’s policing strategies led to “severe and unjustified disparities in the rates of stops, searches and arrests of African Americans” (Investigation of the Baltimore City Police Department, 2016). In contrast to the town of Ferguson that is 67 percent African-American, the Ferguson Police Department had two black officers and fifty white officers when Michael Brown was shot and killed. To diffuse tensions, the U.S. Department of Justice recommended hiring more minorities (Fifield, 2016). Thomas Harvey, co-founder and executive director of ArchCity Defenders, believes that conflicts between the police and the community stem from much deeper issues -- ones that police are not trained to solve. Harvey stated, “Why do we as the public keep
expecting police officers to fill the role of nurses, social workers, housing specialists, mental health experts, drug treatment providers, poverty experts and racial justice advocated? We don’t need more police. We need to make a commitment to address the root causes of poverty, which is at the heart of what we call crime in America” (Fifield, 2016).

Ronald Weitzer, a sociologist at George Washington University said, “Even if police officers of whatever race enforce the law in relatively the same way, there is a huge image problem with a department that is so out of sync with the racial composition of the local population” (Ashkenas and Park, 2015). A diverse police force can also help decrease the sense that individuals are being stopped and questioned solely because of their race. According to Weitzer, Americans overwhelmingly endorse racial diversification: in one poll, more than 70% of whites, blacks, and Latinos believed that a city’s police department should have similar racial complexion to that of city. A representative police force can, in other words, have symbolic benefits that enhance the overall status of a police department and also reduce the perception that actions, such as stops or searches, are based on racial profiling (Weitzer 2015).

Why should my agency care?

While diversity is not a panacea and may not change officers’ behavior, it can enhance cultural competency, which can lead to a greater understanding of what the community wants and needs are. According to David Sklansky, a Stanford Law School professor, diversity can improve a department’s image. It helps break down the rigid mentality that often develops among officers and makes it easier to implement reform (Kutner, 2016). The President’s Task Force stated, “Law Enforcement agencies can achieve trust and legitimacy by establishing a positive presence within community and recommended agencies build workforces encompassing a range of diverse backgrounds to strengthen community relations” (President’s Task Force on 21st Century Policing, 2015). Developing a comprehensive diverse workforce plan and strengthening police community relations is essential for future law enforcement success. Having a diverse workforce will lead to diverse perspectives, which can enhance services to a culturally diverse community. Agencies that have undertaken this effort have found that increased diversity brings a range of benefits that can be seen both within their workforce as well as in their relations with the communities they serve (Advancing Diversity in Law Enforcement, 2016).

Overcoming diversity challenges

If diversity is a key component to building and maintaining trusting relationships within a community, police agencies must overcome the challenges of recruiting, retaining and developing a diverse workforce. To create agency diversity, the EEOC recommended that agencies:

• Ensure that the agency’s organizational culture is guided by community policing, procedural justice, and cultural inclusivity.
• Establish a robust recruitment team of motivated officers to target and engage various community organizations to promote the agency and profession.
• Ensure personnel directly involved with the vetting and decision with the continuance of prospective applicants are trained and understand the agencies hiring mission.
• Engage stakeholders within and outside the law enforcement agency to play a role in creating a workforce that reflects the diversity of the community.
• Evaluate employment criteria, standards, and benchmarks to ensure that they are tailored to the skills needed to perform job functions, and consequently attract, select, and retain the most qualified and desirable sworn officers (Advancing Diversity in Law Enforcement, 2016).

Some agencies have allowed non-citizens to apply as police officers. Using a model similar to the United States Military, police agencies from Hawaii to Vermont allow green card holders to apply as police officers (Gomez, USA Today, 2015). The complexity of law enforcement for the 21st century will include increase community demands and expectations. Being able to overcome the various diversity challenges is a crucial step in meeting these demands/expectations and can enhance cultural competency, while strengthening police community relations.

Conclusion

Police legitimacy has to be established and maintained before we can begin to heal our nation. President Barack Obama said, “When any part of the American family does not feel like it is being treated fairly, that’s a problem for all of us. It means that we are not as strong as a country as we can be. And when applied to the criminal justice system, it means we’re not as effective in fighting crime as we could” (President’s Task Force on 21st Century Policing, 2015).

If law enforcement agencies truly want to invest in agency diversity, they must develop a comprehensive plan to recruit, hire, and develop the right people. While the research suggest that having a diverse workforce could help police community relations, hiring the right people for the profession is essential. As agencies work toward creating and developing a diverse workforce, they should be mindful of the underlying concerns of a few. Some are concerned that standards would be lowered and people would be hired or promoted, simply because of their race or gender. This perception will be hard to overcome; however, we should not dismiss these concerns.

As American contemporary society has progressed over the years, several complex social issues have become singular under a large quality of life umbrella and those issues have been placed on the shoulders of police officers. While having a diverse workforce cannot ensure fair and effective policing, the benefits will outweigh the challenges of not striving for one. Having a comprehensive recruitment and retention plan that promotes and supports diversity is a safe path for the law enforcement future and is a crucial ingredient for building trust and legitimacy in the community.
References


Hiring a police officer is the single most important decision a police chief can make. Making the right hiring decision ensures the new officer will be a positive impact in the community and within the agency. Hiring the wrong individual will undoubtedly cause months or years of frustration, time, resources, and lost productivity. In order to hire a candidate, agencies spend a considerable amount of time processing the candidate through various stages of the hiring process. The current process is quite labor intensive; if it is modernized could result in reduced costs and accelerated processing. Realizing that there is room for improvement helps define steps that will improve the profession.

All agencies are required to dedicate resources related to the recruitment and hiring of Law Enforcement positions. Smaller agencies do this by placing this responsibility on existing staff as a collateral duty. Larger agencies have dedicated staff to accomplish this task. Regardless of the agency size, this impacts all operations. Compounding this problem is the fact that a sheer volume of applicants is needed to simply get to those applicants who meet the basic standards to be hired into a police agency.

The current way of recruiting officers pits one department against the next. In some cases, this results in accelerated testing processes, simply so an agency can be the first to offer employment to an applicant before the other agency does. What occurs during this race to finish is the fact that two or more agencies are duplicating their same efforts in order to complete the POST requirements for final employment. Many times the applicants shop agency-to-agency in order to become successful in the process.

Brian Kalinowski is a Lieutenant with the City of Galt Police Department where he has served for 4 years. Lt. Kalinowski spent the first 20 years with the Office of the Sheriff Contra Costa County. He currently serves as a Division Commander of Support Services for Galt Police Department. Brian is a recent graduate of the POST Command College Class #61, and is working towards a Master’s degree in Law Enforcement and Public Safety Leadership with the University of San Diego. Brian can be reached at bkalinowski@galtpd.com.
Processing Applicants Is Too Costly and Time-Consuming

An example of the hardships of processing large numbers of applicants, many who cannot make it through the processes, is demonstrated with the following two examples: In an effort to hire 55 cadets into the Academy, the City of Oakland estimated that they could see up to 4,000 applications with nearly 1,500 not meeting the minimum qualifications, with a processing cost of over 1.1 million dollars (Hom 2013). As you can see, the numbers are more staggering and impactful for a large agency, but the impacts are still the same regardless the size of your agency. A pre-qualification or credentialing process would see fewer applications as those who have applied will have been deemed to meet minimum qualifications.

Another example of applicants not meeting the minimum qualifications is a study conducted by the New Orleans Police Department from January to May of 2014. During this period, 33% of the applications received did not meet the minimum qualification, and further the application to hiring timeline was at 184 days (Daley 2015). This costly and time consuming process can be changed drastically to enhance the recruiting process and propel police agencies into the technological age of using secure databases as the future tool to store and access all applicant information.

Police Officer Credentialing Process

Many professions, have a pre-qualification or credentialing process. An example of this is teacher credentialing. Prospective teachers in California are required to submit to a credentialing process prior to application to a school district, which includes fingerprinting, education verification, and verification of required training to maintain their credential and continue to teach (CTC 2017). This credentialing website provides the public with access for inquiry of qualifications or credentialing. The cost to process the credentialing is the responsibility of the applicant. The cost to credential in California is one hundred dollars plus live scan fees, and generally takes up to fifty days to complete (ten days with a program sponsor). Credentialing also requires passing The California Basic educational Skills Test (CBEST) (CTC 2017).

Forty four states in the Nation follow a credentialing process, and have the ability to revoke credentialing of officers for certain crimes or conduct. California actually had the ability to use the same process until 2003, except in limited circumstances (Yoder 2013). If the California Peace Officers Standards and Training (POST), hosted a secure data base of potential candidates who have some level of pre-screening or actual credentialing, agencies can avoid wasting their time with those who desire to enter the profession, but are not qualified. The screening or credentialing would allow for a vetting of possible applicants prior to any formalized application or testing. Items that can be included in a pre-qualification or credentialing are items like: Education verification, fingerprinting, selective service verification, military records check/verification, citizenship and age verification, credit check, and any other related verification that can be accomplished in advance. In addition, this data base could allow for a single source submission of a PHS questionnaires, with amendments submitted as needed. This will ensure that the
information on PHS submissions is accurate and not manipulated in an effort to game the system.

**Background Investigation Streamlined**

With the concept of pre-qualifications or credentialing in place, a recent panel of municipal government managers convened to study the issue in September 2016. One possible scenario discussed involved a process by which a candidate could obtain at their own cost, a POST approved background clearance (Kalinowski, 2017). This process would be created and administered by POST, but funding through candidate paid processing fees.

The scenario included a future applicant having the ability to obtain a POST clearance, using a POST approved investigator, with a POST review and approval. A law enforcement agency interested in hiring this future applicant would review the information, and if appropriate, use it as part of the applicant processing and clearance. Should the candidate and the background meet the specifications, the agency can provide a conditional offer, moving right into the final psychological and medical testing. The result of this process will substantially speed up the process for the agency, while of course reducing the time for the applicant. This concept would require the buy-in and implementation by POST. Staffing requirements for data base management and also background review will need to be evaluated and a funding source identified.

The concept or evolution of candidate initiated backgrounds stem from a similar process that was once exclusively the responsibility of police agencies. Generations ago, it was unheard of for someone who wanted to get into law enforcement to put themselves through a police academy at their own cost. By 2005, the number of unaffiliated students was nearly 40% (Switzer 2006). The result of this change, has allowed agencies to hire applicants who have graduated from academies, allowing the newly hired officer to start immediately in the field training program. The result of this is the ability to have a new hire training quicker. In addition, in those cases where a graduate is hired, and not a recruit, the department does not expend financial resources in salary and academy costs.

**Selecting in versus Selecting out candidates**

Using the idea of streamlined backgrounds, could create and opportunity for agencies to rethink their specific approach when considering an applicant for hire. Many agencies are faced with the challenge of simply using the testing process to select out candidates. Should a qualified candidate simply be hired because they were able to cross the hurdles, or should some sort of “selecting in” process be used to better match the applicant with the agency? If the State of California had a process by which a candidate could have some sort of background clearance at the time of their application, and agency can re-focus its criteria for hiring to other areas. The Florida Highway patrol used a similar approach in identifying traits and characteristics that would result in better academy success. The factors contributing to a higher success rate were test scores, military service and education (Steele-Claridge 2015).
Conclusion

For the policing profession to meet the community expectations, we will need to rethink our approach to the recruitment and processing of police officer applicants. The goal, is to create better systems to allow quicker processing of candidates into law enforcement. Reducing the sheer numbers of applicants testing with a particular agency, will better manage the process, and ensure that mistakes are avoided. Imagine, the idea that as an agency, you see a reduced number of applications, but have a higher success rate of applicants processed. It will take the work load of preliminary verification off the back of local investigators, allowing them to streamline their work and process backgrounds in less time. This would have a direct reduction of overall cost of processing for agencies.

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Kalinowski, Brian “If California hosts a secure database of pre-qualified police applicants, how will this impact the success of newly hired officers by 2024?” (April 2017)


A Sketch Saves Time

By Ronald Seman

DNA phenotyping will aid in solving crimes, ultimately increasing public support for law enforcement. In 2015, California law enforcement reported a clearance rate for violent crime of 45.8% (166,588 total reported crimes) and property crimes of 12.6% (1,023,828 total reported crimes) (Harris 2014). That leaves 90,246 victims of violent crimes and 895,175 victims of property crimes without closure while the list of unsolved cold cases continues to grow exponentially. As public support for law enforcement hits record lows, the solution may require more than community bridge building. Law enforcement must hold themselves accountable to the numerous victims and elevate their clearance statistics. Clearing 45.8% of violent crimes and 12.6% of property crimes is simply not good enough; California law enforcement is better than these statistics demonstrate.

One obvious response is to increase funding for policing to put additional officers on the streets to deter and apprehend criminals. Unfortunately, California’s fiscal outlook is not promising, and additional funding for law enforcement appears to be bleak. With crime trends and calls for service increasing and financial resources remaining flat, law enforcement must turn to technology for assistance. Fortunately, recent advancements in DNA technology may prove instrumental to fill that void.

DNA - A Transformative Tool to Solve Crimes

DNA was originally developed to examine genetic material between parents and children to determine paternity (Comier, 2015). It was first used by law enforcement in 1986 when police in England asked Dr. Alec Jeffreys, a molecular biologist, to use DNA to link the sexual assault murder of two young girls with a suspected 17 year-old juvenile (Comier, 2015). Jeffreys not only exonerated the juvenile, but also ultimately identified the actual perpetrator by using DNA (Prime 2011). This case became the catalyst for widespread DNA usage by law enforcement and prosecutors.

Ron Seman is a Commander with the Orange County District Attorney’s Office Bureau of Investigation. He began his law enforcement career 27 years ago with the Arcadia Police Department and has spent the last 20 years with the District Attorney’s Office. He is a graduate from the POST Command College and holds a Bachelor of Science Degree in Business Administration from the Azusa Pacific University.
The Federal DNA Identification Act of 1994 mandated the Federal Bureau of Investigations (FBI) to develop and maintain a forensic DNA database, which is known as the Combined DNA Index System (CODIS). This act further regulated forensic laboratories to ensure their methodologies were sound and validated (Cormier 2005). Since then, California has entered 80,058 crime scene DNA profiles in CODIS, (Combined DNA Index System) and of that number, 31,532 suspects remain unidentified. Phenotyping technology will impact the ability to identify many of these unidentified suspects and increase the numbers of crimes solved.

DNA – What It Is, and How It Works

Traditional DNA profiling, sometimes referred to as DNA fingerprinting, can positively identify an individual with a high level of accuracy (encyclopedia.com, 2005). In a forensic situation, law enforcement can compare a DNA profile (recovered from evidence collected at a crime scene) to a known profile collected from a suspect or from within the CODIS database. DNA fingerprinting maintains a high success rate and a very low false positive rate making this test extremely popular among law enforcement. Current profiling techniques use a specific DNA sequence known as a microsatellite (Yourgenome.org). Microsatellites are short pieces of DNA, which repeat several times in a given person’s DNA. These microsatellites are contained in every cell; strands of hair, blood drops and skin cells. A single cell contains enough DNA to make a positive identification. DNA fingerprinting cannot establish identification beyond a reasonable doubt, but it can establish a high level of probability. Probability does become obscured, when dealing with a mixed or combined DNA sample.

One of the drawbacks from using traditional DNA fingerprinting was the amount of time it took to develop a profile. In an attempt to expedite the amount of time law enforcement spent processing evidence and developing a CODIS profiles, the FBI established the Rapid DNA initiative in 2006 (Hess, 2015). Rapid DNA is a fully automated process to develop a CODIS profiles within 2 hours (Hess, 2015). The process consists of an automated extraction, amplification, separation, detection, and allele calling without human intervention (Hess 2015). Once the profile is obtained, it can be searched through the CODIS database in an attempt to identify the suspect. Although Rapid DNA drastically decreases the amount of time needed to develop a profile which can be searched through the CODIS system, it still doesn’t help if the profile is unknown or not in the system. Phenotyping will currently provide some suspect characteristics and eventually an accurate composite sketch.

What Is Phenotyping?

DNA phenotyping is one of the emerging technologies being utilized by law enforcement over the past ten years to assist investigators in solving cold cases (Snow, 2015). Phenotyping will expedite the process of identification by eliminating the need to locate a matching known sample. DNA phenotyping utilizes DNA to analyze and compose a physical description of an individual, similar to an eyewitness description. This technology
can predict the gender of a person with one hundred percent accuracy, and that person’s ancestry ranging from seventy to ninety percent. It can also predict externally visible characteristics like age, eye color, hair color and skin tone with a minimum of seventy percent accuracy. Charles MacLean, an Associate Dean for Faculty at Indiana Tech Law School is optimistic that in the near future, they will make advancements related to facial morphology, such as nose and face width. Additional advancements include determining the height of an adult, skin pigmentation, hair texture, dimpling, earlobe attachment, baldness, dominant hand, freckling, clef chins and genetic diseases (MacLean, 2015).

Phenotyping goes well beyond profile matching; it analyzes genetic information including medical conditions. The presence or predisposition for diseases such as albinism and sickle cell anemia can be identified, which could raise Constitutional concerns or create adverse case law due to its ability to identify medical conditions that could be seen as violating a person’s expectation of privacy or constitute an unreasonable search (MacLean, 2015). Another source of DNA samples is from evidence collected at a crime scene and should be considered “abandoned”. DNA samples abandoned at a crime scene would normally be seen as outside the scope of the Fourth Amendment, but when law enforcement goes beyond matching profiles, does the Fourth Amendment get triggered?

Does Phenotyping Violate Individual Privacy?

Erin Murphy, a Professor of Law at New York University identifies the Fourth Amendment as the strongest constraint when looking at the constitutionality of phenotyping (Murphy, 2013). The Fourth Amendment is triggered by a finding that a person has an expectation of privacy; to the extent testing or probing into the DNA sample enters a questionable territory which still needs to be legally defined (Murphy, 2013). One of the fundamental issues at the heart of DNA phenotyping arises from the fact that coded information within our DNA contains sensitive information besides externally visible characteristics. Disease propensities, psychological predispositions, and other medical information the DNA source may not otherwise know, may not wish to know, and may not wish others to know are some of the issues (MacLean, 2015). Critics argue phenotyping may lead to discrimination since there is already a disproportionately larger number of samples in DNA databases that were provided by persons of color, which they argue was caused by “discriminatory police practices” (MacLean, 2015).

The American Civil Liberties Union recommends that phenotyping reconstructions are still science fiction and distributing such images is baseless information that endangers innocent people (Stanley, 2016). Lastly, phenotyping analysis potentially violates the Health Insurance Portability and Accountability Act (HIPPA) of 1996, which protects the privacy of health records. Several states have expressly precluded the utilization of official DNA databases for DNA phenotype analysis. Indiana, Rhode Island, Vermont and Wyoming have laws that state limiting the analysis of DNA for the sole purpose of identifying physical characteristics or the predisposition to medical conditions will not be allowed. The State of Texas under Government code 411.143, permits law enforcement to use DNA to obtain information about human physical traits or predispositions of disease as long as it relates to the investigation of a criminal defense. There is currently no federal or California legislation that explicitly addresses DNA phenotyping.
Phenotyping to Solve a Homicide – Costa Mesa, California

In 2014, a private company, Parabon Nanolabs, developed computer software called, “snapshot” to produce a composite sketch based on a DNA profile. Snapshot produces trait predictions for skin color, hair and eye color, presence or absence of freckles, genomic ancestry and facial morphology to generate the initial composite profile. Parabon established a database of genomic data and their relation to outward physical traits connected to those genes. A mathematical calculation is utilized to predict the traits (Snow, 2015). This composite is based on the subject being twenty-five years old and an average body-mass index (BMI) of twenty-two. Parabon additionally offers enhancements on the composite sketch based on eyewitness accounts, such as age progression, weight, facial hair, hairstyle and length, scars, tattoos, and glasses.

Based on the expertise of Parabon Nanolabs, in October 2016 the Costa Mesa Police Department turned to Parabon to assist them in solving a cold case homicide from 1997. According to Detective Sergeant Stephanie Selinske in February 1997, a female victim was found strangled in an upstairs bedroom of her apartment. The case remained open and unsolved for twenty years. With the assistance of DNA phenotyping, it was discovered the Pacific Islander suspect they had focused their investigation on did not match the traits Parabon identified or the composite sketch. Costa Mesa police detectives pursued other persons of interest and ultimately identified the suspect allegedly responsible for this crime and matched the Parabon composite. The suspect is pending extradition from Mexico.
Integrate phenotyping with identification databases

With the development of phenotyping, and the ability to develop a composite sketch of a suspect, the next phase would be to integrate phenotyping technology with facial recognition software and law enforcement databases. Imagine the ability to process evidence at a crime scene; collect DNA from the evidence, identify a profile utilizing rapid DNA technology and then conduct a phenotyping test on the profile to develop a composite sketch of the suspect. The sketch would be scanned into the facial recognition software and searched through the various law enforcement databases such as DMV, jail inmate records, airports, shopping malls and other public surveillance video systems in an attempt to further identify the suspect.

The phenotyping composite sketches currently produced by Parabon Nanolabs are not recommended for use with facial recognition software. The composite sketches currently generated still lack specificity, but as technology advances and more genes are identified in accurately predicting facial characteristics, this recommendation is likely to change.

Conclusion

According to FBI statistics, California law enforcement clears less than half of the violent crimes committed each year. Law enforcement must clear more cases, as the victims of unsolved crimes deserve their day in court as well as final closure. California’s fiscal outlook is not promising, and additional funding will be greatly diminished. Law enforcement needs to turn to technology for assistance. DNA technology is advancing with rapid DNA and phenotyping, which is assisting to identify suspects and exonerate innocent people.

Law enforcement needs to embrace and pursue technological advancements to cut down on personnel costs as well as solve more crimes expeditiously. Phenotyping technology is already assisting law enforcement in its infancy by accurately predicting ancestry, hair and eye color, skin tone and certain facial characteristics such as freckling or clef chins. The future of this technology is extremely promising and having the ability to generate a sketch from a DNA profile will positively impact and increase the clearance rates of violent crimes committed in California. The cost of phenotyping has already been significantly reduced; two years ago the cost was approximately $5000.00 and Costa Mesa Police Department recently paid $3500.00. As this technology grows and more labs enter the field of phenotyping the cost will continue to decrease, just like DNA profiling. Additionally, law enforcement must look at the number of hours it would take investigators to develop their cold case to a point where they had a photograph of their suspect. It may actually turn out to be a cost savings when you figure the cost of the investigators including their overhead costs.

With advancements in the Next Generation Sequencing DNA equipment, phenotyping in the next few years could be available at your local crime labs. Phenotyping has the potential to impact law enforcement similar to the introduction of fingerprint analysis in the beginning of the twentieth century.
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