

THIN SLICING OUR WAY TO SELF-PROTECTION: STEREOTYPICAL REALITY AND THE PERCEPTION OF CRIMINAL TYPE

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Physiognomists have applied the study of human facial characteristics to personality since Lavatar's work in the 18th C (Lavatar, 1866). Frequently dismissed as an absurd practice with dangerous implications, people routinely, deliberately, and instinctually apply these same inferential principles to first impression formation. Evolutionary psychologists posit that aspects of human cognition may have evolved to facilitate detection and defensive responses to individuals who intend to do us harm (Schaller, 2008). Self-protection and preservation are in the interest of survival of the species. The present work examines the understudied area of predictive ability to identify criminals by crime type. A large sample of respondents (n=2,824) drawn from a large Midwestern university were asked to match 10 criminal offenses to 10 randomly selected Department of Corrections identification photographs. Analyses of accuracy included both respondent demographic differences as well as offender to offense identification. Respondents identified six out of 10 crime categories at a rate significantly greater than chance, lending support to the contention that research examining the predictive accuracy of perception, has great utility in the areas of self-protection, preservation, and threat/harm reduction.

Keywords: Thin slicing; self-protection; impression formation; personality judgement; social perception

Society has long embraced anecdotes and clichés about the importance of first impressions; consider the old adages, “you only get one chance to make a good first impression”, or “don’t judge a book by its cover.” Renowned European author Franz Kafka is credited with the quote, “first impressions are always unreliable”. These types of clichés perpetuate the debate about the validity of first impressions and the research is mounting. Judgements based on first impressions, while complicated to decipher, are often surprisingly accurate across a broad spectrum of social contexts and characteristics to a degree

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greater than chance. Research suggests that impressions are formed quickly, or as Gladwell (2007) offers, in the blink-of-an-eye. The rapid processing of information in pursuit of sound decision-making and judgement is an essential function of the human species. The importance of first impressions is often embraced when the usage remains anecdotal and abstract; however, the discussion has a tendency to become controversial and caustic when we start to consider the application, implication, and utility in context. These concerns should not dissuade research efforts aimed at better understanding our ability to deduce inferential characteristics and qualities of behavior for the purpose of self-protection.

Frequently referred to as *impression formation* (Eyal, Hoover, Fujita, & Nussbaum, 2011), *personality judgement* (Funder, 2012), or the more colloquial concept: *thin slicing* (Ambady & Rosenthal, 1992; Gladwell, 2007), academic literature, primarily in the areas of social, and evolutionary psychology, provides support for the predictive accuracy of brief, initial reaction, first impressions. Thin slicing refers to the spontaneous, unconscious process of perception formation that allows individuals to form impressions based on slices of information gathered from brief encounters (Gladwell, 2007). Impressions that derive from brief assessments have the ability, in a matter of milliseconds, to influence how we think about and/or judge others (Porter, England, Juodis, Ten Brinke, & Wilson, 2008). Consensus in character trait impressions has been achieved with brief photographic exposure to faces alone. For example, recent work by Watt, Maitland & Gallagher (2017) had respondents rate faces for “creepiness” and then in a second study the researchers included the resulting group of “creepy” faces with additional photographs and found that the construct “creepiness” resided in the eyes, and creepy faces were perceived as less trustworthy and less attractive. Further, in their second study with a new sample of respondents, the photo grouping rated as creepy in the first study was again rated as more “creepy” than two other groups of photographs, lending support to consistency and rater reliability. Prior research tends to focus on how people make judgements (come to consensus), with much less discussion about how we use first impressions to anticipate and even predict future behavior and action (Sparks, Burleigh, & Barclay, 2016), or ultimately prevent dangerous interactions with people we suspect may do us harm.

Extant research has documented the accuracy of the predictive power of thin slicing (See Gladwell, 2007; Porter et al., 2008; Schaller, 2008). Snap judgments following minute/brief observations have been found to result in better than chance trait identification for sexual orientation (Johnson, Gill, Reichman, & Tassinari, 2007), cheating (Verplaetse, Vanneste, & Braeckman, 2007), cooperation and honesty (Fetchenhauer, Groothuis, & Pradel, 2010), intelligence (Borkenau, Mauer, Riemann, Spinath, & Angleitner, 2004), altruism (Brown, Palameta, & Moore, 2003), and introversion/extroversion (Little & Perrett, 2007). Similarly, the ability to identify personality characteristics from photographic images at a rate greater than chance has been replicated across race, culture, and age with similar success (Hassin & Trope, 2000; McArthur & Berry, 1987). Importantly, these photograph based personality trait judgements endure over time. Rule and Ambady (2011), studying yearbook photos and later career success, found personality trait perception consistency

over a span of 20-50 years between the two sets of photographs. Results suggest an indelible durability of perception based personality characteristics.

The application of thin slicing techniques to strangers, often referred to as the zero acquaintance paradigm, has been found to reliably infer various personality traits. Taken one step further, the zero acquaintance hypothesis, relying only on facial exposure via photographs, has yielded important personality character assessments used in decision making (Hassin & Trope, 2000). Accuracy is often determined through self-reported personality tests (Naumann, Vazire, Rentfrow, & Gosling, 2009), acquaintance ratings (Berry, Wero, & Julia, 1993), or simulated games of cooperation (Stirrat & Perrett, 2010). Spontaneous perceptions of facial impressions have been used successfully to predict social outcomes including power and leadership success, (Rule & Ambady, 2011), election results (Todorov, Mandisodza, Goren, & Hall, 2005), and sentencing outcomes (Blair, Judd, & Chapleau, 2004).

The theoretical framework for this vein of research often focuses on the kernel-of-truth hypothesis, a subset of ecological theory emphasizing social perception. The ecological view takes a broad, perhaps more tangible view of static social perception, suggesting that we can actually hear and even see certain personality traits including anger and dominance (Berry et al., 1993) in the voices and faces of others. Consensus has been found in appearance-based impressions across a variety of identified traits, supporting the contention that facial cues can be reliably used to identify traits, and social perceivers can often accurately identify those traits at rates greater than chance.

Historically, kernel-of-truth impressions have made researchers uncomfortable due to a sense of perceived unfairness via stereotyping, or concern for far reaching negative social implications (Berry et al., 1993). Support for kernel-of-truth findings are often explained away with broad discussions of behavioral confirmation or self-fulfilling prophecies, focusing on consequential mistakes resulting from inaccurate social perceptions. Far less research has focused on the social and societal benefits accurate predictions may provide, which when used for self-protection against victimization, do not need a causal relationship to be advantageously useful.

The stigma associated with the early eugenics movement and social Darwinism has significantly impeded discussions of perception as a self-protective tool to avoid situational crime victimization. The legacy of eugenics, social Darwinism, and even the work of the earliest physiognomists has led to the misguided and erroneous use of perception and thin slicing as proxies for racial profiling and stereotypical bias-laden exercises of misidentification and mischaracterization. Past research often focused on the stereotype-behavior connection rather than the advantages of improving accurate perception-based decisions in potentially dangerous social interactions and situations. The stigma of historical abuse and misuse often limits important discussions about the utility of perceptions today (Valla, Ceci, & Williams, 2011).

Contemporary perception research in criminal justice examines the misidentification of suspects in criminal line-ups (Flowe, Mehta, & Ebbesen, 2011; Oliver & Fonash,

2002), unreliable decisions about suspect guilt in court (Porter, ten Brinke, & Gustaw, 2010), and biased sentencing decisions (Wilson & Rule, 2015). While these are undeniably adverse social consequences to incorrectly “judging a book by its cover”, to abstain from a vein of research with potential practical utility towards self-protective perceptions due to the potential for false-positives is short sighted and myopic. In other words, the presumption that research of this type will be used for mal-intent and consequently should be avoided or abandoned is a logic statement that itself reflects the negative consequences of hypersensitivity to false-positives encountered in this area of evolutionary psychology. The impact of false-negative perceptions may be far more consequential to the safety and security of the individual.

Limited research has been conducted on the accuracy of perception based zero-acquaintance judgements or decisions as a protective factor relating to crime and victimization. This study complements and extends prior work examining the use of thin-slicing and first impression formation for self-protection, asking the question, “Can people use thin-slicing and inferential perceptual judgement, based on zero-acquaintance photographs, to accurately match offenders by crime type at a rate greater than chance?” Results may support the use of thin-slicing as a tool adapted through evolutionary psychology for self-protection from crime and victimization, similar to evidence supporting thin-slicing and first impressions as an evolutionary tool for disease detection and preferential mate selection (see Schaller & Neaberg, 2012).

LITERATURE REVIEW AND BACKGROUND

There is a considerable body of literature citing the negative consequences of stereotypical judgment and decision making in the criminal justice system. For example, Yarmey (1993) found that defendant characteristics such as physical attractiveness and likeability may influence jury decisions more so than the presentation of the legal evidence associated with the case itself. Such work often identifies human bias, tunnel vision, and overconfidence on the part of jurors who consequently thin-slice information incorrectly. Similarly, Korva et al. (2013), reported increased perceptions of trustworthiness placed upon a defendant if they were subjectively observed to be more attractive, kinder, less aggressive, and less likely to commit crimes.

Research suggests that people are able to accurately identify danger through limited or brief exposure (Stillman, Maner, & Baumeister, 2010). Bar, Neta, and Linz (2006), found that reliable evaluations of threat can be formed after a mere 39 milliseconds. Porter, et al., (2008) found the accuracy of predicting trustworthiness was greater than chance in as few as 30 seconds of exposure. Williams & Mattingly (2006) found that people have evolved to detect threatening faces rapidly and accurately. Extant research has been quite clear in determining that the amount of time necessary to form initial impressions, thin-slice information, and reach consensus is extremely brief (See Klatt et al., 2016) with evidence suggesting that additional exposure time does not increase accuracy and may in fact diminish it.

Much less frequent in the prior research are examinations of the accuracy of first impressions and judgements. The ability to use thin slicing to accurately identify criminal threat as an adaptive protective feature for victimization avoidance is valuable to human survival. Thornton (1939) found respondents were able to match offenders to crimes at a greater than chance rate of success when using penitentiary photographs. Similarly, Yarmey (1993), employing still photographs, found high consensus rates when respondents categorized criminals and noncriminals, and even categories or types of crimes based on the photographs. Although response accuracy was not evaluated, consensus by perceived crime type was present.

Adaptively refined perception has the potential to protect us from violence and victimization. This is not unlike the evolutionary responses of fight or flight or the sensation and display of hair standing on end as physiological responses to fear (Nesse, 1990). The use of perception as an evolved avoidance mechanism provides individuals with the ability to successfully identify situations that may cause threat of harm (Haselton & Funder, 2006). Prior research shows adults can successfully predict violence and aggressiveness based on facial structure. Stillman et al., (2010) estimated violence propensity for 87 registered sex offenders after viewing a still photograph for 2 seconds. Respondents were able to accurately predict potential threats and distinguish violent from nonviolent sex offenders at a rate greater than chance. The authors believe, “the faces of sex criminals provide valid cues as to their propensity for violence, and untrained observers can detect and correctly interpret those cues” (Stillman et al., 2010, p. 302). Culbertson-Faegre (2011) found that undergraduate participants were able to accurately determine whether someone had committed a sexual offense, simply by viewing both a Department of Corrections (DOC) mugshot and another facial photograph.

Valla et al., (2011) showed 44 college students 32 headshots (16 criminals, 16 non-criminals) and found that when exposed to static images, participants were able to choose between criminals and noncriminals at a rate greater than chance. However, students were unable to perceive differences between violent and non-violent offenders, or between specific crime types. Valla et al., (2011) note no gender differences in accuracy when identifying criminals and non-criminals. Porter et al., (2008) compared photographs of Nobel Peace Prize winners to criminals and found accurate predictions of trustworthiness at a rate greater than chance when distinguishing between the two groups. Thirty undergraduate students were exposed to 34 black-and-white photographs of males, cropped to expose only the face and placed on a grey background, with results revealing that trustworthiness was predicted accurately and consistently at a rate greater than chance after both 30s and 100s of exposure.

Gender differences in prediction have netted mixed results. Stillman et al., (2010), apply Error Management Theory to thin slicing, arguing that less costly errors are made in order to avoid more costly errors. In their sample of 97 college students, they found no sex differences in accuracy, noting, however, that women perceived higher violence levels than men. They propose that women may be less hesitant to label men as aggressive because failing to detect aggressiveness (false-negatives) may have more detrimental results for

women than their male counterparts. Valla, et al., (2011), reported contradictory findings noting that within their study, women were less likely to correctly identify male sexual offenders than their male counterparts. An ecological perspective explanation suggesting that sexual offenders are able to gain access to their victims due in part to their ability to appear non-threatening could account for this sex difference. Providing support for the ecological theory, sexual offenders within the sample were rated on average as more attractive than non-offenders, again, this may be a feature of their disarming persona leading to their successful perpetration of sex crimes.

Another area of prior research has focused on facial masculinity, highlighting the relationship between testosterone and increased aggression, and linking testosterone to facial morphology (Penton-Voak & Chen, 2004). Measuring faces based on their width-to-height ratio (WHR), a sexually dimorphic trait which can be calculated by measuring the distance from cheekbone to cheekbone, compared to the distance from the top of the lip to the midbrow (Pincott, 2012), has been associated with accurate prediction of aggression (both positive and negative). Men with higher WHRs, have been found to be more aggressive. Carre, McCormick, & Mondloch (2009) had 16 female and 15 male participants predict which Caucasian men were more aggressive after viewing static photographs. Respondents were able to accurately identify aggressive men in 39 milliseconds. Men picked as more aggressive by the participants had the highest WHRs. Haselhuhn and Wong (2011) were able to link the propensity to deceive to individuals with high WHRs in their sample of 192 Masters of Business Administration students, finding that those who had higher WHRs were three times more likely to lie for financial gain in a theoretical scenario, than those with lower WHRs. Similarly, Stirrat & Perrett (2010) found in their sample of 143 white heterosexual college students, that males with wider faces were more likely to exploit trust than those with slim faces.

While the emphasis here is on the identification of socially undesirable correlates of WHR including aggression and untrustworthiness, socially beneficial correlates have also been identified including organizational success. For example, Wong, Ormiston & Haselhuhn (2011), found that a wider facial width-to-height ratio (WHR) was correlated with financial achievement and performance when examining CEO's of Fortune 500 organizations. Companies with wider faced male CEOs reported better financial performance.

Thin-slice informed perceptions of aggression and threat potential, derived from still photographs, have been shown to be highly consistent across much of the extant literature, supporting the possibility that human beings have the ability to quickly, accurately, and to a degree greater than chance, identify another's propensity for aggression and harm following even the briefest zero-acquaintance encounter. Prior work also indicates that facial cue recognition may be increased with experience. For example, Short, et al., (2012), found no evidence of same race advantage when identifying aggressive potential in both children and adults. They also found that children were less successful than adults when examining the width to height ratio, suggesting the development over time of a honed perceptible ability.

When testing the accuracy of perception and subsequent prediction, prior literature relies heavily on both simulations and self-reports, which may not accurately reflect behavior. Additionally, much of the literature utilizes researcher manipulated uniform images, often in greyscale, wiped of additional visual cues that might typically inform perception and impression. Much of this research relies on homogenous black-and-white photographs of white males occasionally cropped to expose only their face, with tattoos, facial hair, and blemishes removed (Porter, et al., 2008). This prior methodological approach seems unrealistically sterilized and confounding of the natural processes of evolutionary psychology and thin-slicing techniques, which arguably are predicated on the rapid interpretation of the very cues that are being intentionally removed. To better evaluate the accuracy of thin-slicing for negative traits, a more natural “slice” is needed. Prior research has attempted to reduce reliance on stereotypical information when making decisions, however, the removal of clothing, hairstyle, personal grooming, facial expression, and even posture, may not provide sufficient information for perception formation and may in fact be undermining feasibility, and most importantly, accuracy in these prior studies. Personality traits can and do leave visual cues on faces (Malatesta, Fiore, & Messina, 1987). It is likely that more dynamic stimulus events provide more useful information, especially when using perception to inform adaptive behavior. Changing photographs to make them look as similar as possible undercuts perception by substituting artificial images for factual thin-slices.

Behavioral inferences based on facial characteristics have shown both high inter-rater consensus and accurate predictive ability (Rule, Krendl, Ivcevic, & Ambady, 2013). First impressions can provide startling accuracy for identification of behavioral traits and characteristics. While past literature has often linked the perception of criminals to unfair and biased treatment in the system, it has all but ignored the important social benefits accurate perceptions may have as a unique self-protective factor. The present work examines the predictive ability of adaptive inferential spontaneity and thin slicing to identify criminals by crime type, an understudied area in criminal justice. This study sought to determine the predictive accuracy of self-protective perception across several crime types utilizing a large respondent sample of students from a Midwestern university.

METHODOLOGY

A Freedom of Information Act request was filed with the Illinois Department of Corrections (IDOC) asking for the provision of data that included the ID photographs and intake crime/demographic information for each inmate admitted into the IDOC for the previous year. For the year 2012, this included 23,316 inmates. Inmates were sorted into 10 separate offense categories: property (theft, burglary), drug (possession or manufacturing), murder, assault, robbery (carjacking, home invasion), fraud, sex crimes, driving offenses (DUI, revoked licenses), weapons offenses (possession of a firearm as a felon, reckless use of a firearm), and domestic violence. The most serious offense was used when multiple offenses were present.

An e-survey was sent to all faculty and students at a large Midwestern university who had opted in to receive campus based research invitations. The participant invita-

tions resulted in 2,824 respondents. Respondents completed a brief demographic profile and were given a series of 10 inmate ID pictures randomly selected from the IDOC intake database. Images included both a standard front and side profile and were identical in background and framing. Respondents were asked to briefly look at the picture and then select the crime they perceived the offender committed from a dropdown list consisting of the 10 crime categories noted above.

Each respondent viewed pictures of offenders representing each of the 10 crime categories at random, but they were not told they had one photo for each of the 10 crime categories. Respondents were able to select any crime category for any offender image. Offenders were not intentionally selected in any way by the researchers; a criticism of prior profiling/thin slicing research. Additionally, no limitations or weightings by race or gender were implemented. Any offender starting a prison sentence in the state of Illinois in 2012 was included in the database of randomly selected images.

RESULTS/FINDINGS

Overall demographics of the IDOC population, as noted in Table 1, show a disproportionate minority (69.5%), male (91.5%) composition. Significant demographic differences are noted among offenders across crime type. Black offenders have a greater proportion in every crime category except sex offending, where white offenders make up the majority. Black offenders have the highest proportion of robbery, drugs and weapons offenses, while white offenders show their highest numbers in fraud, sex offenses, and domestic violence incidents. Driving offenses are the largest category for Hispanic offenders in this sample. When gender is examined, as expected, men commit the overwhelming majority of all offenses in this sample, with property offenses the highest female category (694; 39%), and drug offenses (6,176; 29%) the highest male category. Significant differences across crime type are noted by age, height, weight, and body-mass index (BMI).

Table 1. Offender Demographics (N = 23,316)

	Total	Property	Drug	Fraud	Driving	Murder	Assault	Robbery	Sex	Weapons	Domestic Violence
	23,316	5,985	6,807	546	2,615	265	1,341	1,699	1,443	1,928	687
**Mean Age	32.79	33.54	33.10	35.72	37.90	31.68	30.15	25.52	36.98	26.30	34.45
**Race											
Black	13,460 (57.7)	3144 (52.6)	4489 (66.0)	268 (49.2)	991 (37.9)	167 (63.0)	730 (54.5)	1283 (75.5)	529 (36.7)	1537 (79.7)	313 (45.6)
White	7,019 (30.1)	2282 (38.2)	1650 (24.3)	237 (43.5)	1023 (39.1)	50 (18.9)	426 (31.8)	250 (14.7)	627 (43.5)	147 (7.6)	322 (46.9)
Hispanic	2,748 (11.8)	527 (8.8)	648 (9.5)	36 (6.6)	591 (22.6)	46 (17.4)	174 (13.0)	159 (9.4)	280 (19.4)	238 (12.3)	48 (7.0)
Other	89 (.4)	26 (.4)	16 (.2)	4 (.7)	10 (.4)	2 (.8)	10 (.7)	5 (.3)	6 (.4)	6 (.3)	4 (.6)
**Sex											
Male	21,349 (91.5)	5291 (88.4)	6176 (90.7)	372 (68.1)	2439 (93.3)	246 (92.8)	1218 (90.8)	1621 (95.4)	1421 (98.5)	1894 (98.2)	658 (95.8)
Female	1,982 (8.5)	694 (11.6)	631 (9.3)	174 (31.9)	176 (6.7)	19 (7.2)	123 (9.2)	78 (4.6)	22 (1.5)	34 (1.8)	29 (4.2)
**Mean Height	69.23	69.25	69.21	68.61	68.97	69.01	69.23	69.58	69.22	69.29	69.61
**Mean Weight	181.41	180.54	183.61	188.05	181.79	187.74	180.63	177.04	183.29	175.76	182.46
**BMI	26.61	26.48	26.93	28.12	26.85	27.67	26.49	25.71	26.85	25.72	26.43

**p ≤ .001

As noted in Table 2, of the 2,824 respondents, most (79%) were students. The racial composition is similar to the overall composition of the university with less than 15% minority. There is a slightly elevated gender concentration, 67% of the respondents are female. The majority of respondents identified as straight (94%).

Overall, the majority of offenders were misidentified by the participants when deciding on crime type, in fact, 800 respondents (28%) were unable to accurately identify/match even a single crime. Others, however, employing inferential perception, correctly identified 2, 3, 4, 5, and even 6, of the 10 crimes.

Table 2. Respondent Demographics (N = 2,824)

	Number	Percent
Gender		
Female	1882	66.6
Male	942	33.4
Mean Age	25.5	
Race		
White	2438	86.3
Black	121	4.3
Hispanic	118	4.2
Other	147	5.2
Sexual Orientation		
Straight	2664	94.3
Gay	67	2.4
Bisexual	93	3.3
Student/Faculty		
Undergraduate	1874	66.4
Graduate	356	12.6
Faculty/Staff	594	21.0
Correct Hits		
0	800	28.3
1	1131	40.0
2	623	22.1
3+	270	9.6

When comparing correct identification across crime categories, the hit rates varied significantly. In the overall sample, six of the 10 crimes were identified at a rate greater than chance with drug offenders correctly identified 19% of the time, a rate significantly greater than chance. Sex offenders were the second highest significant category, at 17%. Also significant, was the under identification of homicide offenders at only 6%. Table 3 presents a comparison of mean hit rates across a myriad of demographic factors. Several notable demographic differences in hit rates are significant. To further examine differences in prediction across demographic factors of respondents, a series of logistic regression analyses were conducted. Table 4 reveals only one significant demographic difference – age. Older respondents had significantly better hit rates than younger respondents for property crimes, and younger respondents had significantly better hit rates than older respondents for sex offenders and murderers.

Table 3. Significant Differences in Hit Rate Across Offense Type by Demographic Factors.

	Property	Drug	Fraud	Driving	Murder	Assault	Robbery	Sex	Weapons	Domestic Violence
Total	11.0	**19.3	**6.2	**13.5	**6.0	9.6	10.8	**17.1	9.7	*11.9
Race										
Black	10.7	*17.4	*5.0	11.6	9.1	10.7	8.3	*19.8	13.2	13.2
White	11.0	19.7	6.2	**13.5	5.8	9.8	10.8	17.0	9.5	11.9
Hispanic	7.6	10.2	7.6	*18.6	8.5	5.1	5.9	17.8	10.2	13.6
Other	13.6	21.1	5.4	12.2	4.8	8.8	16.3	17.0	10.2	9.5
Sex										
Male	11.4	**20.6	**6.1	**14.0	**6.1	9.2	10.5	**17.0	8.8	*13.1
Female	10.8	**18.7	**6.3	**13.3	**6.0	9.8	10.9	**17.2	10.2	11.3
Age										
Under 25	10.6	19.0	6.3	13.2	6.6	9.1	10.6	18.6	9.7	11.7
25-44	11.0	19.4	4.8	12.4	5.0	10.9	12.2	14.3	10.5	12.0
45+	14.4	20.9	8.3	18.0	3.2	11.2	10.1	12.2	8.6	12.2
Orientation										
Straight	11.4	19.1	6.1	13.4	6.1	9.7	10.9	17.1	9.6	11.8
Gay	6.0	20.9	7.5	13.4	3.0	10.4	11.9	14.9	11.9	13.4
Bisexual	4.3	23.7	7.5	16.1	5.4	7.5	7.5	19.4	10.8	11.8
Status										
Undergraduate	10.5	19.3	5.3	13.3	6.1	9.5	10.5	17.7	9.9	12.3
Graduate	15.4	21.6	7.9	16.0	4.2	10.4	11.5	11.5	11.0	11.2
Faculty/Staff	9.9	17.8	7.9	12.8	6.7	9.6	11.4	18.9	8.6	10.9

*p<.05

**p < .001

Table 4. Logistic Regression Results

	B	SEB	Wald χ^2	P	Exp (B)
Property					
*Age	.011	.005	4.525	.033	1.011
Male	.045	.127	.127	.721	1.046
Straight	-.035	.354	.010	.921	.965
White	.002	.208	.000	.993	1.002
Drug					
Age	.002	.004	.286	.593	1.002
Male	.126	.100	1.569	.210	1.134
Straight	.088	.293	.090	.764	1.092
White	.240	.175	1.895	.169	1.272
Fraud					
Age	.003	.007	.193	.660	1.003
Male	-.043	.167	.067	.796	.958
Straight	-.286	.489	.343	.558	.751
White	-.039	.265	.022	.881	.961
Driving					
Age	.008	.005	3.131	.077	1.009
Male	.050	.116	.184	.668	1.051
Straight	-.318	.333	.912	.340	.728
White	-.139	.182	.585	.444	.870
Murder					
*Age	-.023	.009	6.324	.012	.977
Male	.034	.169	.040	.841	1.034
Straight	.408	.405	1.014	.314	1.503
White	-.098	.266	.137	.711	.906
Assault					
Age	.008	.006	2.210	.137	1.008
Male	-.064	.137	.216	.642	.938
Straight	.421	.379	1.237	.266	1.524
White	.332	.248	1.786	.181	1.393
Robbery					
Age	-.002	.006	.088	.766	.998
Male	-.050	.130	.149	.700	.951
Straight	-.393	.382	1.060	.303	.675
White	-.094	.202	.213	.644	.911
Sex					
*Age	-.016	.005	9.585	.002	.984
Male	-.005	.107	.002	.963	.995
Straight	.181	.281	.415	.519	1.198
White	-.021	.172	.014	.905	.980
Weapons					
Age	.000	.006	.000	.991	1.000
Male	-.164	1.406	1.406	.236	.849
Straight	.272	.653	.653	.419	1.313
White	-.094	.191	.191	.662	.910
DV					
Age	.002	.005	.169	.681	1.002
Male	.160	.122	1.720	.190	1.173
Straight	.188	.332	.323	.570	1.207
White	.059	.204	.204	.773	1.061

* $p \leq .05$

DISCUSSION

The present work sought to expand upon the understudied area of thin-slicing and inferential first impression perceptions as a means of self-protection via identification of criminals by crime type at a rate greater than chance. The study also sought to address several critiques in the extant literature including prior researcher manipulation of target photos used for crime type identification. Evolutionary psychology suggests that people may be acutely adept at making judgements based on thin slicing and that this tool may be uniquely advantageous towards self-preservation and avoidance of criminal victimization.

Our findings support that exposure to brief zero-acquaintance static images are sufficient to form first impressions with greater than chance predictive accuracy in identifying criminal perpetrators by crime type. Contradicting past literature, women were not more likely to identify a sex offender or a domestic violator, in fact, no race, sex, age, or orientation differences were significant across number of guesses or type of offense. Future research should focus on isolating differences in prediction by respondent characteristic to better hone self-protective prediction ability. Research needs to overcome the cloud of controversy hovering over this area of inquiry brought on by historical misuses during the eugenics movement, social Darwinism, and more recent applications of stereotyping and racial profiling. It is highly likely the dearth of empirical inquiry into self-protective perception research corresponds to the negative reactions this type of work often elicits. Anecdotally, we have conducted dozens of self-report surveys on a variety of controversial social issues (incest, sexual assault, binge drinking, domestic violence, internet pornography, and animal abuse) and rarely ever receive concerns from individuals in our potential respondent pool. The aftermath of this survey netted numerous emails, some invoking the term racism and regarding the survey as “offensive”. Clearly self-protective perception research is important though it is evident the work continues to be misunderstood and therefore mischaracterized.

Interestingly, people make perceptual judgements based on both static and dynamic visual imagery, including photographs, often, even daily. Both marketing and ever increasing social media platforms employ the use of photographs to create impressions and impact perceptions including: trust, honesty, enjoyment, affluence, prosperity, poverty, experience, authority, employability, mate selection, and much more. Using perceptual judgement techniques to determine fact from fallacy is acceptable and non-confrontational in many contexts (eg. marketing, social media messaging, etc.), in fact, we regard it as astutely discerning. However, when the context is changed and we apply these very same tried-and-true evolutionary techniques for the purposes of self-protection and determining friend from foe, employing terms like crime and criminal, and people fervently condemn the very techniques they deploy daily in other social contexts for personal benefit and gain. Honed perceptual intelligence (PIQ) is valued if the application, context, and consequences are innocuous or inconsequential but apply the same perceptual judgement calculus and make the determination that the person walking towards you looks like they might harm you and the judgement is biased, stereotyping and unacceptable. In other words, perceptual judgements about self-protection resulting in false-positives result in no personal harm to

the perceiver but contribute to broader social harms by perpetuating erroneous conclusions, whereas perception based determinations resulting in false-negatives result in great personal harm to the misperceiver but limited social harm. Accurate perceptual assessment averts both personal and social harm. Research that seeks to better understand perceptual accuracy (and inaccuracy) is important and we draw on these intuitive psychological tools frequently in our day-to-day lives.

The formulation of perceptions based on both static and dynamic visual imagery, including photographic images, as an integral ingredient in decision-making is becoming more prevalent across sectors, industries, and personal associations. It stands to reason that research examining predictive accuracy, regardless of social context, is valuable and important but arguably of utmost importance in the domain of self-protection, preservation, and threat/harm/victimization reduction.

While results here support that respondents have the ability to predict certain criminal offenses at a rate significantly greater than chance, several limitations need to be noted. It is possible that perceptible cues to personality can be enhanced with increased exposure to the target subject, the still image of the face, while expressive and informative, is not sufficient to form sound judgements in all or arguably even most circumstances. Perhaps, if photographs of offenders were in their natural environment, in street clothes, predictive ability would be enhanced. The biggest drawback in using inmate ID photos is that we are unable to accurately label offenders by crime type. Offenders often cycle in and out of the system and commit multiple crimes across crime types at different stages of their criminal career. The current data was unable to reliably categorize offenders by their criminal history, only by their current and most serious offense.

The potential for misuse of first impressions and perceptual judgements in formal decision making processes exists and caution should be exercised. Individuals with stereotypical criminal looking faces are more likely to be identified in line-ups, more likely to be convicted of crimes fitting their facial stereotype, with facial features even impacting punishment severity (Olivola, Funk, Todorov, 2014). Given that many of us routinely make perception based inferences across a variety of contexts and interactions with others there is hardly an area where these judgements are more important than in the area of self-protection. Efforts to untangle how perception influences decisions serves to improve not only our accuracy but also improve our understanding of how we come to make inaccurate inferences based on misperceptions. The desired outcome is the improvement of intuitive self-protection through accuracy while minimizing social harm caused by inaccuracy.

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