

racially hostile work environment, and by retaliating against them for engaging in protected activity. Plaintiffs' surviving claims include discrimination in violation of Title VII of the Civil Rights Act of 1964 against the City for discrete acts of discrimination occurring on or after October 26, 2016, for Savage, for discrete acts of discrimination occurring on or after May 4, 2017, for Blake, and for a hostile work environment (Count One); discrimination in violation of Mass. Gen. Laws ch. 151B against the City, Calvi, and Conant for discrete acts of discrimination occurring on or after October 9, 2015, and for a hostile work environment (Count Two); unlawful retaliation in violation of Title VII of the Civil Rights Act of 1964 against the City and unlawful retaliation in violation of Mass. Gen. Laws ch. 151B against the City, Calvi, and Conant (Count Four); and violation of the constitutional guarantee to equal protection against the City, Calvi, and Conant (Count Seven). Plaintiffs seek declaratory and injunctive relief, as well as compensatory and punitive damages.

Pending before the court is Defendants' motion to exclude testimony from Dr. Christopher Erath, whom Plaintiffs have indicated they intend to call as an expert during trial in connection with their claim that the City's failure to enforce the City's Residency Ordinance had a disparate impact on minority firefighters by depriving them of promotional opportunities within the department (Dkt. No. 180). For the following reasons, Defendants' motion is DENIED.

II. Background

A. Expert Report of Christopher Erath, Ph. D.

Plaintiffs submitted a declaration from economics expert Christopher Erath, Ph. D. ("Dr. Erath") in support of an unsuccessful motion for class certification (Dkt. No. 103-4). Dr. Erath identified a spreadsheet created by Plaintiffs' counsel based on data received from the City and

public sources, which shows the promotion history of employees of the Fire Department from 1984 to the present, as the basis for his expert opinions (Dkt. No. 103-4 at ¶ 3). He attached the spreadsheet, which identifies the ethnicity of each firefighter and indicates whether the individual complied with the residency ordinance, as an exhibit to his declaration (Dkt. No. 103-4, Exhibit B). Dr. Erath indicated that he was asked to address two questions, as follows: (1) Are there racial differences in the rate at which employees satisfied the City of Springfield's residency requirement?; and (2) Are there racial differences in the composition of the department's officer ranks? (Dkt. No. 103-4 at ¶ 3). According to Dr. Erath, his understanding was that any firefighter hired or promoted on or after March 17, 1995, was required to live in the City (Dkt. No. 103-4 at ¶ 4).

In conducting his analysis, Dr. Erath utilized the spreadsheet provided by Plaintiffs' counsel to calculate the percentage of firefighters who satisfied the residency ordinance by race (black, Hispanic, and white), both globally and by rank (firefighter, lieutenant, captain, and above). He then performed Fisher's Exact tests to determine the likelihood that the different compliance rates by race could have occurred by chance. Finally, he calculated the percentage of firefighters of each race (black, Hispanic, and white) who achieved each rank (firefighter, lieutenant, captain, and above). After analyzing the data, Dr. Erath made the following observations:

- There was a statistically significant difference between the proportion of blacks and whites and, separately, Hispanics and whites, who satisfied the residency ordinance (87.5% compliance rate for blacks, 85.2% for Hispanics, and 50% for whites) (Dkt. No. 103-4 at ¶¶ 5-6);
- There was a statistically significant difference between the proportion of blacks and whites, and separately, Hispanics and whites, who achieved the rank of lieutenant and satisfied the residency ordinance (69% for blacks, 70% for Hispanics, and 36.8% for whites) (Dkt. No. 103-4 at ¶ 8-9);

- Despite a small sample size (only three blacks ever achieved the rank), there was a statistically significant difference between the proportion of blacks and whites who achieved the rank of captain and satisfied the residency ordinance (100% for blacks and 31.9% for whites) (Dkt. No. 103-4 at ¶ 10);
- The overall composition of the department’s 420 uniformed employees included 53.1% whites, 30.2% Hispanics, and 16.7% blacks (Dkt. No. 103-4 at ¶ 11);
- The composition of employees who achieved the rank of lieutenant, a total of 131 employees, included 74.8% whites, 15.3% Hispanics, and 9.9% blacks (Dkt. No. 103-4 at ¶ 12);
- The composition of employees who achieved the rank of captain, a total of 57 employees, included 82.4% whites, 12.3% Hispanics, and 5.3% blacks (Dkt. No. 103-4 at ¶ 13);
- The composition of employees who achieved a rank above captain, a total of 31 employees, included 83.9% whites, 9.7% blacks, and 6.5% Hispanics (Dkt. No. 103-4 at ¶ 14).

From his observations, Dr. Erath drew the following conclusions. First, “there was a high and statistically significant correlation between residency compliance and race among uniformed employees of the Springfield Fire Department” (Dkt. No. 103-4 at ¶ 15). Second, “[h]ad Springfield consistently enforced the 1995 residency requirement ... the enforcement action would have disproportionately disqualified whites, who were able to maintain representation in the officer ranks at much higher levels than their overall percentages in the department” (Dkt. No. 103-4 at ¶ 17).

In opposition to the motion for class certification, Defendants assailed one of Dr. Erath’s premises that any firefighter hired or promoted on or after March 17, 1995, was required to live in the City of Springfield, because it was at odds with a decision by the Hampden County Superior Court in a declaratory judgment action brought by Savage and others that any firefighter hired before March 17, 1995, was exempted from the requirements of the ordinance, even if that individual was promoted after that date. Plaintiffs have now represented that they

intend to offer Dr. Erath's opinions after adjusting his analysis to eliminate at least twenty-two white firefighters who were hired before that date from consideration.

B. Defendants' Rebuttal Expert

Defendants have submitted an affidavit from Michael Campion, Ph. D., in rebuttal to the opinions of Dr. Erath (Dkt. No. 181-1). In his affidavit, Dr. Campion first questions the relevance of adverse impact analysis to Plaintiffs' claims in the absence of a class on the ground that it is an ecological fallacy, or a "mistaken conclusion drawn about individuals based on findings from groups to which they belong," to infer that Plaintiffs were discriminated against based on a finding of adverse impact to the group of minority firefighters (Dkt. No. 181-1 at ¶7). Setting that issue to the side, Dr. Campion maintains that Dr. Erath's opinions are neither reliable nor relevant because the underlying data on which his opinions are based fail to utilize the relevant statistical pool (Dkt. No. 181-1 at ¶8). Specifically, Dr. Campion faults Dr. Erath for relying on data going back to 1984, rather than limited to the time periods established by the court, for Plaintiff's claims and for including the entire pool of Springfield fire fighters, rather than just those qualified for promotion as a result of having met certain minimum experience requirements and having taken and passed the civil service exam with results coming within the "2n+1" formula necessary for consideration under the civil service regulations (Dkt. No. 181-1 at ¶¶ 19-20, 22-30).

Dr. Campion then undertook his own analysis using what he maintains is a proper candidate pool for purposes of determining disparate impact in promotion consisting of candidates on the promotional lists from 2015 to the present (i.e., those candidates who met the minimum experience requirements, took and passed the civil service exam, and had results coming within the 2n+1 formula) (Dkt. No. 181-1 at ¶¶ 41-42). Dr. Campion explains that

EEOC regulations establish the “four-fifths” rule as a “rule of thumb” when disparate impact employment discrimination is alleged, such that “[a] selection rate for any race ... which is less than four-fifths (4/5) (or eighty percent) of the rate for the group with the highest rate will generally be regarded ... as evidence of disparate impact.” (Dkt. No. 181-1 at ¶ 13 (quoting 29 C.F.R. § 1607.4(D)). However, the EEOC Rules recognize that where the sample size is too small to be statistically significant, adverse impact ratios can be misleading, a reality that Dr. Erath acknowledges in utilizing the Fisher’s Exact test rather than the four-fifths rule (Dkt. No. 181 at ¶ 14). Application of the Fisher’s Exact test, which calculates the likelihood that an apparent association observed in a data set is the product of random chance rather than a true relationship, is more useful for small sample sizes (Dkt. No. 181-1 at ¶¶ 48-50). Dr. Campion found application of the four-fifths rule to the data in the promotional lists showed that the disparities are not sufficiently significant to draw an inference of causation except with respect to the promotion rate for captain (Dkt. No. 181-1 at ¶¶ 44-45). However, application of the Fisher’s Exact test showed no statistically significant difference for any rank (Dkt. No. 181-1 at ¶¶ 48-50). Dr. Campion thus concludes that “[b]ased on [his] analyses, ... there is no statistical evidence of adverse impact for any job level or for all the jobs combined in either minority group during the period of the case” (Dkt. No. 181-1 at ¶51).

III. Discussion

A. Legal Standard

The admission of expert evidence is governed by Fed. R. Evid. 702, which codified the Supreme Court’s holding in *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579 (1993), and its

progeny. *United States v. Diaz*, 300 F.3d 66, 73 (1st Cir. 2002). Pursuant to Federal Rule of Evidence 702:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

- (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

Fed. R. Evid. 702. District courts assessing the admissibility of expert testimony must “act as gatekeepers, ensuring that an expert’s proffered testimony ‘both rests on a reliable foundation and is relevant to the task at hand.’” *Samaan v. St. Joseph Hosp.*, 670 F.3d 21, 31 (1st Cir. 2012) (quoting *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 597 (1993)). The former requirement, that of reliability, requires that the expert testimony both be based on reliable methods and be reliably applied. *Earley Info. Sci., Inc. v. Omega Eng'g, Inc.*, No. 19-10364-FDS, 2021 WL 5868249, at *1-2 (D. Mass. Dec. 10, 2021). The latter requirement requires the court to evaluate whether the expert testimony will be helpful to the trier of fact, which requires the court to determine whether it is relevant, “not only in the sense that all evidence must be relevant, but also in the incremental sense that the expert’s proposed opinion, if admitted, likely would assist the trier of fact to understand or determine a fact in issue.” *Id.* at *2. (quoting *Ruiz-Troche v. Pepsi Cola of P.R. Bottling Co.*, 161 F.3d. 77, 81 (1st Cir. 1998)).

A district court “must be vigilant in exercising its gatekeeper role because of the latitude given to expert witnesses to express their opinions on matters about which they have no firsthand knowledge and because an expert’s testimony may be given substantial weight by the jury due to the expert’s status.” *Ferring Pharms., Inc. v. Braintree Lab’ys, Inc.*, 210 F. Supp. 3d 252, 255 (D. Mass. 2016) (citing *Daubert*, 509 U.S. at 595; *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 148 (1999)). That said, the district court “must [also] ... keep in mind that vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are traditional and appropriate means of attaching shaky but admissible evidence.” *Id.* (citing *Daubert*, 509 U.S. at 596).

B. Application

Plaintiffs plan to offer Dr. Erath’s testimony as an expert witness regarding the alleged disparate impact on minority firefighters in their opportunities for promotion within the SPD resulting from the City’s lax of enforcement of the residency ordinance to support of their claim that the City violated their rights under the Equal Protection Clause and corresponding civil rights statutes. Defendants assert that Dr. Erath’s testimony should be excluded on *Daubert* grounds because, as set forth in the Dr. Champion’s affidavit, while Dr. Erath’s use of the Fisher’s Exact test is scientifically acceptable, the underlying data consists of an improper labor pool for establishing a prima facie case of disparate impact in promotions because (1) it includes stale data that goes back over thirty years, long before the time bars set by this court of October 26, 2016, for Savage, and May 4, 2017, for Blake under Title VII, and October 9, 2015, for Mass. Gen. Laws ch. 151B; and (2) it does not comport with Massachusetts Civil Service law governing eligibility for promotion because it includes the entire pool of firefighters employed by SPD, without considering the Civil Service requirements that the individual took the civil

service exam, passed the civil service exam, came within the “2n+1” formula limiting the range of ranked candidates that can be considered, met the minimum one-year experience in the next lowest grade as a prerequisite to taking the exam, or met the minimum three years of job experience as a prerequisite for any initial promotion. When the relevant statistical pool, consisting only of minorities and non-minorities qualified to undertake the ranked positions of Lieutenant, Captain, District, Chief, and Deputy Chief within the Springfield Fire Department during the pertinent time-period is used, as demonstrated by Dr. Champion’s analysis, the disparities in promotion are not sufficiently significant to draw an inference of causation necessary to make out a prima facie case of disparate impact. Thus, Defendants move to exclude Dr. Erath’s expert declaration and the spreadsheet on which he relies.

Plaintiffs counter that this court’s prior ruling on the class certification issue supports the admission of Dr. Erath’s testimony, that cross-examination is the appropriate tool for probing the underpinning of Dr. Erath’s testimony and not outright preclusion of his expert opinions, that this court has not set a time bar for their Equal Protection claim arising from the City’s practice of refusing to enforce the residency ordinance which goes back to March 17, 1995, and that Dr. Champion’s contention that the candidate pool should be limited to those individuals on the promotional lists ignores the reality that those lists were compromised by a discriminatory overrepresentation of white residency violators who should not have been on the lists. Thus, Plaintiffs ask that Dr. Erath be permitted to testify. Plaintiffs further argue that Defendants should be precluded from calling Dr. Champion as an expert witness based on their failure to disclose him as an expert as required by Fed. R. Civ. P. 26(a)(2) before this court’s January 18, 2022, deadline. Plaintiffs maintain that this procedural violation is unfairly prejudicial to them

because it compromises their ability to engage in requisite discovery, including deposing Dr. Campion, and to procure a rebuttal.

As set forth above, Plaintiffs claim is that Defendants' practice of not enforcing the residency requirement disparately impacted minority firefighters' opportunities for promotion. Both Title VII and the Equal Protection Clause encompass conduct that results in a disparate racial impact. Title VII forbids "practices that are fair in form, but discriminatory in operation," which is most often referred to as "disparate impact" discrimination. *Lewis v. City of Chicago*, 560 U.S. 205, (2010); *see* 42 U.S.C. § 2000e-2(k) (prohibiting "employment practices that cause [] a disparate impact on the basis of race" unless those practices are justified by business necessity). A disparate impact claim under Title VII does not require proof of an intent to discriminate. *Jones v. City of Boston*, 752 F.2d 38, 46 (1st Cir. 2014). Similarly, one category of racial discrimination violative of the Equal Protection Clause that merits strict scrutiny is "where a facially race-neutral, and evenly applied, policy results in a racially disparate impact and was motivated by discriminatory intent." *Bos. Parent Coal. for Acad. Excellence Corp. v. Sch. Comm. for City of Bos.*, 89 F.4th 46, 56 (1st Cir. 2023) (citing *Vill. Of Arlington Heights v. Metro. Hous. Dev. Corp.*, 429 U.S. 252, 264-65 (1977); *Washington v. Davis*, 426 U.S. 229, 242 (1976)). Unlike Title VII, "[a] theory of unintentional discrimination cannot, by itself, establish liability in an equal protection case ..., which requires proof of both disparate impact and discriminatory intent." *Id* at 57 (citing *Vill. Of Arlington Heights*, 429 U.S. at 266-68).

To make a prima facie showing of disparate impact, a plaintiff must isolate and identify a challenged employment practice and "then show that the identified practice 'causes a disparate impact on the basis of race.'" *Jones v. City of Boston*, 752 F.2d 38, 46 (1st Cir. 2014) (quoting 42 U.S.C. § 2000e-2(k)(1)(A)(i)). "The Supreme Court has ... described a prima facie showing

of disparate impact as ‘essentially a threshold showing of a significant statistical disparity ... and nothing more.’”¹ *Id.* (second alteration in original) (quoting *Ricci v. DeStefano*, 557 U.S. 557, 587 (2009)). *See also Fudge v. City of Providence Fire Dep’t.*, 766 F.2d 650, 658 (1st Cir. 1985) (holding that a prima facie case of disparate impact can be established where “statistical tests sufficiently diminish chance as a likely explanation”). Here, Plaintiffs intend to offer Dr. Erath’s testimony to meet this threshold showing that the City’s failure to enforce the residency ordinance disparately impacted minority firefighters’ opportunities for promotion. Plaintiffs’ theory is somewhat difficult to articulate as a theory of disparate impact. Broken down to its component parts, it is that the City’s failure to enforce residency disparately affected white firefighters, who were more likely to be in violation of the residency requirement, resulting in their maintaining their positions as firefighters and being eligible for promotions when they should not have been, and that this, in turn, caused minority firefighters to have to vie for promotions against non-resident white employees. Setting aside the viability of such a theory, which Defendants chose not to contest in their motion to dismiss Plaintiffs’ amended complaint or by seeking summary judgment, both sides recognize that statistical evidence is vital to establish the existence of a racially disparate impact. In a case where the Defendants did not attempt to meet their burden of showing their entitlement to pretrial disposition of Plaintiffs’ claim of disparate impact as a matter of law, the court will not now grant them such relief indirectly by precluding Plaintiffs’ expert, whose methods – which are, after all, the “central focus of a *Daubert* inquiry,” *Ruiz–Troche v. Pepsi Cola of P.R. Bottling, Co.*, 161 F.3d 77, 81

¹ Of note regarding Plaintiffs’ Equal Protection claim, which again requires proof of intentional discrimination, “the mere existence of disparate treatment – even widely disparate treatment – does not furnish adequate basis for an inference that the discrimination was [impermissibly] motivated.” *Soto v. Flores*, 103 F.3d 1056, 1067 (1st Cir. 1997) (quoting *Dartmouth Review v. Dartmouth College*, 889 F.2d 13, 19 (1989)).

(1st Cir. 1998)) – this court previously found reliable and which Defendants do not contest, from testifying.

This ruling is in line with the “general rule [that] the factual basis of an expert opinion goes to the credibility of the testimony, not the admissibility, and it is up to the opposing party to examine the factual basis for the opinion in cross-examination.” *Brown v. Wal-Mart Stores, Inc.*, 402 F. Supp. 2d 303, 308 (D. Me. 2005) (quoting *Larson v. Kempker*, 414 F.3d 936, 941 (8th Cir. 2005)). Defendants are free to try to expose what they view as the shortcomings of Dr. Erath’s opinions on cross-examination, including by posing questions based on Dr. Champion’s analysis. However, the court will not permit Defendants to call Dr. Champion as an expert witness based on their excused and unexcusable failure to comply with the deadline set by this court (or seek relief from that deadline) and their obligations under Fed. R. Civ. P. 26(a)(2). To do otherwise would be unfairly prejudicial to Plaintiffs.

In closing, the court addresses one argument Plaintiffs make in their opposition to Defendants’ motion in limine, which is that this court has not set a time bar for their Equal Protection claim. That statement is true insofar as the parties have not previously presented the issue to this court. However, the issue now having been raised, the court observes that “[a] claim under § 1983 takes the statute of limitations from the underlying state cause of action,” *Pérez-Sánchez v. Public Bldg. Auth.*, 531 F.3d 104, 107 (1st Cir. 2008) (citing *Owens v. Okure*, 488 U.S. 235, 240-41 (1989)). Massachusetts has a three-year statute of limitations for personal injury actions, “and therefore, § 1983 actions must be brought three years from the date on which they accrue.” *McLaughlin v. Boston Retirement Bd.*, 146 F. Supp. 3d 283, 288 (D. Mass. 2015) (citing *Thomas v. Town of Salisbury*, 134 F. Supp. 3d 633, 644 (D. Mass. 2015)). Federal law applies for purposes of determining *when* the statute of limitations begins to run. *Martínez-*

Rivera v. Puerto Rico, 812 F.3d 69, 74 (1st Cir. 2016). “That rule is that [the clock starts] ticking ... when [a plaintiff] knew or had reason to know of the injury on which [the plaintiff’s] claim rests.” *Id.* Here, Plaintiffs have a history of challenges to various employment decisions by the Fire Department in which they expressed their belief they were not being treated equally based on race when those employment decisions were made. For purposes of determining the statute of limitations applicable to Plaintiffs’ Equal Protection claims before this court, these challenges occurred at least as early as 2014 (Dkt. No. 76 at 12, ¶¶ 42-45, 86). Plaintiffs filed suit on October 9, 2018, and, therefore, Plaintiffs’ equal protection claims are only viable for alleged discriminatory failures to promote or other alleged discriminatory acts occurring on or after October 9, 2015.² The time frames for Plaintiffs’ Title VII and ch. 151B claims remain as already calculated by this court.

IV. ORDER

For the above-stated reasons, Defendant’s motion to exclude opinion testimony and declaration evidence of Dr. Christopher Erath (Dkt. No. 180) is DENIED.

It is so ordered.

Dated: June 3, 2024

/s/ Katherine A. Robertson
KATHERINE A. ROBERTSON
United States Magistrate Judge

²In this regard, the court notes that even if a factfinder determines that Defendants violated Title VII’s disparate impact provision, Plaintiffs will not be able to recover unless they show that they personally were the victim of discrimination by the challenged employment practice, i.e., lost a specific promotional opportunity within the statute of limitations. *See Tabor v. Hilti, Inc.*, 703 F.3d 1206, 1220 n.7 (10th Cir. 2013) (citing *Coe v. Yellow Freight Sys., Inc.*, 646 F.2d 444, 451 (10th Cir. 1981)). *See also Chin v. Port Auth. Of N.Y. & N.J.*, 685 F.3d 135, 151 (2d Cir. 2012) (“[E]ach person seeking individual relief ... [must] show that ... she suffered an adverse employment decision and therefore was a potential victim of the proved discrimination.”). This requirement addresses the ecological fallacy issue raised by Dr. Champion.