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Evaluating Racial Discrimination Research Within Behavior Analytic Journals

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EVALUATING RACIAL DISCRIMINATION RESEARCH WITHIN BEHAVIOR

ANALYTIC JOURNALS

A Master's Thesis

Presented to

The Graduate College of

Missouri State University

In Partial Fulfillment

Of the Requirements for the Degree

Master of Science, Applied Behavior Analysis

By

Lindsey Audrey Marie Dennis

May 2021

EVALUATING RACIAL DISCRIMINATION RESEARCH WITHIN BEHAVIOR ANALYTIC JOURNALS

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Lindsey Audrey Marie Dennis

ABSTRACT

Antiracism movements in the United States have gained momentum over the last year as events of racial discrimination have been publicly displayed in the media and increased social awareness regarding barriers and disadvantages facing certain communities in a broader cultural ecosystem. The current review evaluated the prevalence of racism and anti-racism research within 8 major behavior analytic journals, where 39 articles met the inclusion criterion. Each article was evaluated on based on critical race theory, as relating to implicit bias, white privilege, or systemic racism extended from the nested model developed by Belisle, Payne, and Paliliunas (in press) and its theory-to-impact model developed by Dixon, Belisle, Rehfeldt, and Root (2019). Results show that research on racism and anti-racism is increasing at a exponentiating rate in behavior analytic journals – although this work appears to be constrained largely to only a few journals in the field of applied behavior analysis. Results also show that a majority of the literature is theoretical or correlations, with limited direct experimental research and even fewer studies that have demonstrated a reduction is racist behavior. I discuss some potential avenues for future research based on these findings.

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In the interest of academic freedom and the principle of free speech, approval of this thesis indicates the format is acceptable and meets the academic criteria for the discipline as determined by the faculty that constitute the thesis committee. The content and views expressed in this thesis are those of the student-scholar and are not endorsed by Missouri State University, its Graduate College, or its employees.

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INTRODUCTION

Marginalization and oppression are engrained in the fabric of the American culture, specifically when the treatment is tied to minority racial and ethnic groups (Feagin & Elias, 2013; Mitchell, 2012). Racism encompasses a group of behaviors which reflect the belief that a group of people, based on their ethnic background, are somehow inferior to the majority group (in American society the majority group is White people) (Delgado & Stefancic, 2017). Racism can also be found in biases and micro aggressive actions evident in members of the majority group and in members of the impacted group (Sue, Bucceri, Lin, Nadal, & Torino, 2007). Racial privilege has resulted in systematic barriers, including oppression along social, economic, and political lines and how White people can gain superiority over minority races (Feagin & Elias, 2013).

Racism can be defined as, "a belief that race is a fundamental determinant of human traits and capacities and that racial differences produce an inherent superiority of a particular race," (Merriam-Webster, n.d.). Inequality on the bases of race has played a major part in determining the division among races in the United States (Ladson-Billings & Tate, 2006). Since the beginning of 2020, racism has become an escalating topic of interest, gaining momentum as light was shed on systemic discrimination as public events of racism unfolded before us on social media (Barrie, 2020). Because of these cultural events, racism and anti-racism are of an increasing topic of social and research interest (Roberts & Rizzo, 2020).

The death of George Floyd on May 25, 2020 sparked a multitude of anti-racism movements lead by the Black Lives Matter platform (Barrie, 2020; Black Lives Matter, n.d.; Weine, Kohrt, Collins, Cooper, Lewis-Fernandez, Okpaku, & Wainberg, 2020). Because George

Floyd's death was videotaped and shared for anyone to view (Barrie, 2020), it was up to the public to interpret the motivations behind the actions of the police officer who knelt on his neck, killing him, and the other officers who stood and watched (Dixon & Dundes, 2020; Dreyer, Trent, Anderson, Askew, Boyd, Coker, ... & Stein, 2020). Many marked George Floyd's death as unjust and an act fueled by racial discrimination (Dixon & Dundes, 2020). Unfortunately, George Floyd's death was only one of many racially charged deaths publicized for all to see (Boyd, Lindo, Weeks, & McLemore, 2020; Cole, April, & Trinkner, 2020), and acts of police brutality is nothing new even in amidst of recent reports and protests (Alang, McCreedy, & Hardeman, 2017). Anti-racism platforms began to hold marches to show their support for George Floyd (Weine et. al., 2020), Ahmaud Arbery, Breonna Taylor (Newman, Albritton, Barrett, Fallon, Moy, O'Neal, & VanMeter, 2021) and anyone else effected by racial injustice all the while they were being shut down using force, rubber bullets, and tear gas (Dave, Friedson, Matsuzawa, Sabia, & Safford, 2020). Though these racially charged deaths (Cole, April, & Trinkner, 2020), and protesting events (Black Lives Matter, n.d.) have been publicized heavily in recent years, acts of racial injustice have occurred just as frequently in the past (Wendt, 2009).

Minority racial groups in the United States have experienced discrimination throughout the history of the United States as a country (Lavalley & Johnson, 2020). Racial discrimination has taken many forms in the past, from white people forcing America's indigenous people away from their land (Coates, 2015) to Japanese concentration camps during World War II (Daniels, 2004), to slavery (Kolchin, 2003) and segregation of Black people (Massey, Rothwell, & Domina, 2009), and as a result minority groups have suffered tremendously as a result of racial discrimination throughout American history (Okazaki, 2009). Events such as these have past, and as a country the United States has made minimal advancements towards creating a better

culture for minority groups such as ending the Jim Crow Laws (Simkin, 2020), which segregated Black people from White people, the same problems still exist within the structure of society (Bonilla-Silva, 2015). We have known racism to be a problem through these recent cultural events, yet very little has been done to change the way people think about race (Boykin, Brown, Carter, Dukes, Green, Harrison, ... & Williams, 2020).

Not only have historical events such as World War II and slavery created perceptions of minority groups (Daniels, 2004; Kolchin, 2003), but events within our lifetimes have also strengthened the stereotypes people hold regarding race. The terrorist attacks on September 11, 2001 strengthen the stereotype that middle easterner individuals are more dangerous than White people (Dixon, & Lemke, 2007). Recently COVID-19 has caused an increase in racially motivated crimes against Asians suggesting they carry the virus and are associated with its escalation to a pandemic (Croucher, Nguyen, & Rahmani, 2020; Heinrich, 2020). Other examples include movies and television shows depicting black individuals in a negative light, so when the black people encountered in our lives are violent, those stereotypes become stronger (Staples & Jones, 1985). All of these examples play into stereotypes and biases held by so many American people. Often times when individuals are encountered with information which confirm stereotypical behaviors of a specific group, confirmation bias leads to strengthen stereotype beliefs as well (Neslson, 2014).

Confirmation bias explains the phenomenon in which people implicitly search for behaviors which confirm already existing beliefs they hold about others, while explicitly avoiding or ignoring alternative explanations (Alsaad, Taamneh & Al-Jedaiah, 2018; Klayman, 1995). For instance, White people may hold the perception that Black people are violent and when they encounter Black individuals who confirm this belief, the believed stereotype is

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strengthened, whereas if a Black person is nonviolent, they are disregarded because they do not confirm with their already existing stereotype beliefs.

Over the past several hundred years, humans have made great advancements in the way we treat diseases, explore space, and advanced technology yet little has been done to preserve the world that has already existed and the people who live in that world (Skinner, 1987). Yes, these advancements have produced good outcomes for humans but are they as important as making the world a safer place to live, treating people with dignity and respect? So why have people not treated racial discrimination with as high importance as other technological advancements? Skinner (1987) breaks down this issue simply by stating people as individuals lack the responsibility to initiate change (Murrell, 2020). The initiation of change, as it relates to reducing racism, has previously been reinforced therefore the likelihood of this behavior occurring frequently enough to create a change is low (Hays, Niccolls, Musuda, & Rye, 2002). It also takes more than just one individual effort to produce a change. Unfortunately, individual efforts only go so far as to see change (Griffith, Mason, Yonas, Eng, Jeffries, Plihcik, & Parks, 2007). The involvement of a group or institution is necessary to create a change that withstands over time as it is more likely to address the systemic and systematic ways in which discrimination occurs (Griffith et al., 2007). So, it is important for individuals to see the broader context, which is that they are often a part of many groups and organizations which can gain and utilize power to create change (Griffith et al., 2007). Complex social contingencies often relate to involvement in such issues (Hayes, Hoffman, & Stanton, 2020). For example, if an individual is willing to participate in anti-racism behaviors there is no guarantee others will do the same. The problem may not be that we are not smart enough to understand racial discrimination is a problem which

needs to be solve, but that our environment does not support widespread change based on individual contingencies.

      People's behaviors have not changed over time because natural selection has prepared us for environments that are similar to the past even though our future environments will not be the same as the past (Skinner, 1987). Strong race identifying behaviors have been reinforced (Lavalley & Johnson, 2020) through generations (Hipolito-Delgado, 2016), by those with governmental power (Bullard, 1993), through media (Kulaszewicz, 2015), and those behaviors are learned behaviors for every new generation (Martin, Hutchison, Slessor, Urquhart, Cunningham, & Smith, 2014). Therefore, since racial discrimination has previously been reinforced (Hudson, Sacks, Sewell, Holland, & Gordon, 2020) it may be harder to eliminate racism. If we had to rely solely on this process to see a reduction of racism, many generations could pass before any noticeable difference could be detected in learned racial stereotypes (Martin et al., 2014). But relying on years and generations to pass is not the optimal solution for change here and now, because as behavior analysts we are able to intervene before new generations arise. Interventions have the potential to introduce new contingencies and behaviors where change can be detectable now (Skinner, 1987). A reduction in racial discrimination will not happen by chance because these behaviors have been successful in the past at creating a culture that was successful (Capper, 2015). Skinner (1987) states that it is only when people understand their behaviors have dangerous consequences is when they will be willing to change, and this is where intervention becomes important. Since the death of George Floyd, and many other Black individuals, people have begun to see the consequences racism has created thus we may be moving in the right direction (Black Lives Matter, 2020).

Though the Black Lives Matter movement (Black Lives Matter, n.d.), social media, and the willingness for people to stand up for minority groups, individuals who exhibit racist behaviors have begun to encounter the consequences of their actions (Faulkner & Bliuc, 2016). Activist movements and their allies have begun to stand up publicly against those who disagree with them (Black Lives Matter, 2020). Unfortunately, people are resistant to information which informs us our behaviors are wrong or offensive due to their punitive nature (Skinner, 1987). Though informing individuals of their racist behaviors draws attention to the problem, it may not be the best way in creating change. Interventions which will have the greatest likelihood of producing change should focus on reinforcing alternative behaviors rather than punishing the ones which already exist (Skinner, 1987). Skinner (1987) suggests interventions by differentially reinforcing alternative behaviors modeling the behaviors you wish to increase should produce the desired outcomes. Therefore, by changing the contingencies of reinforcement for anti-racism should be more effective than punishing racially charged behavior. By incorporating reinforcement and reducing punishment, anti-racism interventions should gain more support, produce faster changes, and produce less backlash through the intervention process than if the natural contingencies of selection are left untouched.

If left up to contingencies of selection of consequences of culture to see a change, then it will take generations to see a reduction in racial discrimination (Skinner, 1981), and longer to see the end of end racism. For new behaviors and cultural practices to appear and endure over time they must contribute to the overall strength of the group (Skinner, 1987). The conflict between groups is what has caused such a wide division between races that will be difficult to eliminate (Skinner, 1987). Eliminating racism may be impossible in the current culture as the majority group has a lot to gain from this divide (Collins, 2018). The overwhelming amount of people

who are uncommitted or unwilling to change limits the effects of new behaviors by those who are willing to put in the effort to eliminate racial discrimination (Skinner, 1987). Anti-racism intervention could start producing a change now. Many have noted interventions on racial discrimination would be optimal but agree that there may not be one set way to approach teaching anti-racism but that does not mean more effort should be put into the cause (Dixon, Belisle, Rehfeldt, & Root, 2018; Skinner, 1987). Simply teaching anti-racism to individuals within the culture may only create a portion of the change we desire to see. Being able to understand the background, theories and the impact behind racism is crucial as well in addressing racism.

Critical race theory is a movement that began in the legal profession, but has since moved into other disciplines, which highlights the intersections of race, property, power and institutionalized racism in order to share the experiences of minority ethnic groups (Delgado & Stefancic, 2017). This movement expands on the broader concepts such as the civil rights movement in areas such as history, economics, and self-interests (Crenshaw, Gotanda, Peller, & Thomas, 1995; Delgado & Stefancic, 2017). Civil rights activists began to realize the advancements made in the civil rights era were stalling during the 1970s, which is what surfaced the emergence of critical race theory (Delgado & Stefancic, 2017). Because advancements were stalled, activist understood the importance of launching anti-racism movements for the future. Critical race theory also takes into consideration prior movements such as critical legal studies and radical feminism (Delgado & Stefancic, 2017). The theory takes components from critical legal studies, specifically the idea that not all legal cases finish with the appropriate outcome (Delgado & Stefancic, 2017). Critical race theory also recognizes that positive outcomes of anti-

racism movements, such as Brown v. Board of Education (1954), will become less prominent overtime (Delgado & Stefancic, 2017).

Critical race theory was developed in hopes to gain understanding of the current culture surrounding race and to create a change on how our society functions for the better as racism has been engrained in the American society (Delgado & Stefancic, 2017; Ladson-Billings, 1998). Critical race theory operates under five basic tenets. The first states racism is common in which people of minority racial and ethnic groups experience discrimination from society on the regular (Delgado & Stefancic, 2017). Because racism is so common and ingrained in the essence of American culture (Bell, 1992), intervening on the function racist behavior is challenging. The second tenet states white people gain the most from the structures which have evolved from racism, creating an environment in which poses no harm to themselves (Delgado & Stefancic, 2017). Since the society that has been created benefits white people the most, and they make up a majority of the society (Collins, 2018), eliminating racism serves little interest to White people as of the privilege gained from it (Neblett, 2019). Critical race theory's third tenet expresses races evolved as a result of social constructs. Physical features such as skin color and body types make up only a small portion of what individualizes ethnic groups (Phinney, 1996), which is not what is explained here. Phinney (1996) explains ethnicity as including three aspects. The first being that attitudes and values define ethnic groups (Phinney, 1996). The second aspect states that there is a group identity encompassed by members of each ethnicity and the third aspect states the events each of the members experience binds them together (Phinney, 1996). Social constructs of races were created as people began to associate behaviors to specific ethnic and racial groups (Delgado & Stefancic, 2017). The fourth tenant of critical race theory states "race is intersectional and anti-essential with various identities influencing their overall experiences"

(Belisle, Payne, & Paliliunas, under review). Lastly, the fifth tenet explains that the best people to speak on account of racism are those minority groups who have experienced racism firsthand in their daily lives (Delgado & Stefancic, 2017, De Houwer, 2019).

Different levels of racism have evolved over time. Belisle, Payne and Paliliunas (under review) proposed a nested model of racism which included implicit bias, white privilege, and systemic racism. Much research has been conducted evaluating implicit bases within the field of behavior analysis (Barnes-Holmes et al., 2010) using the implicit relational assessment procedure (IRAP; Barnes-Holmes, Barnes-Holmes, Power, Hayden, Milne & Stewart, 2006) as in other disciplines as well (Blanton, Jaccard, Gonzales, & Christie, 2006; Payne, Vuletich & Brown-Iannuzzi, 2019). Implicit bias can be described as unobservable thought processes which drives unconscious behavior (Greenwald, & Krieger, 2006; De Houwer, 2019). Simply just knowing a person holds biases does not mean the biases will change or disappear (Noon, 2017). White privilege describes the favorable outcomes for white people which are a product of "the differential probability of obtaining reinforcement or punishment for similar or identical behaviors based solely on one's race" (Belisle, Payne, & Paliliunas, under review). The history of racial discrimination and biases play a role in the development of white privilege (Collins, 2018). These unearned, unconscious advantages often go unnoticed by the majority group because the negative effects of the culture are not directly experienced by them and are therefore not of much concern (Collins, 2018). Often many white people are taught of the negative effects of racism on minority groups yet fail to recognize the how white privilege puts them at an advantage (Collins, 2018) and rarely addressed in diversity trainings (Brignall, & Van Valey, 2017). Case (2007) sought to increase the awareness of white privilege and racism by conducting a diversity course for undergraduate students which highlighted race as a social construct,

stereotype development, institutional racism and more. Results supported a greater awareness of white privilege and racism among participants while also increasing White guilt at the end of the course (Case, 2007). Systemic racism relates to the context of racism which is fundamental to social, economic and/or political practices which may not occur on purpose but are engrained in the existing structures (Belisle, Payne, Paliliunas, under review). Racial discrimination on this foundation effects how a system operates because it is engrained in its structure.

In understanding systemic racism, it is also important to recognize the difference between it and systematic racism. Systematic racism relates to the methods of a system which policies and practices are used to discriminate based on race (Cambridge Dictionary, n.d.) which is often a result of the effects of white privilege (Collins, 2018). For example, a workplace may be set up in such a way that minority groups are guaranteed to fail. Another example of systematic racism includes the examination of resumes in which resumes held the same information and qualifications for a specific job and only the names of the applicants were changed. One applicant's name was Joe and the other José where Joe is consistently called in for an interview over José based solely on his name. While implicit bias, white privilege, and systemic racism are all different in structure, they are all intertwine to create a culture in which minority groups are put at a major disadvantage while. White people not only are spared from racial discrimination but are often positively affected by the disadvantages of others (Collins, 2018; Delgado & Stefancic, 2017).

The nested model of racism holds two major notions guided by critical race theory. One states the model isolates the different aspects of racism allowing research within those areas to occur and the other says intervention research may be developed from its existing structure (Belisle, Payne, Paliliunas, under review). The model places implicit bias in the center followed

outwards by white privilege then systemic racism. The nested model flows one of two ways. The first highlights a top-down approach where systemic racism is viewed more broadly before digging into the more intricate details of implicit biases representing a typical sociological view (Belisle, Payne, Paliliunas, under review). The second represents a bottom-up approach. This approach starts with the notions of implicit biases and works at creating an impact at the model's core then moving outwards (Belisle, Payne, & Paliliunas, under review). Belisle, Payne, and Paliliunas (under review) also state all level of the model are at constant play with one another meaning research and findings at one level has the potential to impact the other areas.

Dixon, Belisle, Rehfeldt, & Root (2018) describe the theory-to-impact model that defines the conditions for application of behavior research. The theory-to-impact model includes theoretical, translational, and implementation advancements (Dixon, Belisle, Rehfeldt, & Root, 2018). Theoretical advancements can be defined as the proposal of ideas and reviewing already existing ideas. The key in defining theoretical advancement is that no studies took place. Translational advancements take place under contrived conditions (Dixon, Belisle, Rehfeldt, & Root, 2018). Research at the translational level is used to discover the potential importance of theoretical and conceptual findings highlight with the theoretical level of this model. It is important to assess the ideas presented within the theoretical level of this models as well. Translational and theoretical advancements together can create successful research used to reduce racism. Within the translational level no application of the findings takes place outside the contrived experiment. When that application of the findings takes place is when research at the implementation level takes place. Research at the implementation level involves research in applied settings such as the workplace or within schools (Dixon, Belisle, Rehfeldt, & Root, 2018). It is important to build upon translational research by incorporating applied research into

real world settings to see if the contrived findings transfer into real world settings. At this is where translational ideas are evaluated in real world settings/ the effectiveness of treatments. It is important to remember research from each previous level should inform the direction in which future research at the next levels should go (Dixon, Belisle, Rehfeldt, & Root, 2018) and that all levels of research are needed to create a full account of the behavior of interest. No research on any of these levels is important if it is not shared with others to create a larger impact in changing the world (Dixon, Belisle, Rehfeldt, & Root, 2018). The nested model of racism and the theory-to-impact model together can help guide the future of anti-racism research within behavior analysis.

As behavior analyst we have the knowledge needed to guide change within racial discrimination, yet what is being done. The purpose of this analysis sought to see where racism research lies within major behavior analytic journals using the nested model of racism and the theory-to-impact model. We hypothesized there would be limited research regarding racial prejudice on all levels of both models confirming the need for further evaluation of implicit biases, white privilege, and systemic racism at each of the theory-to-impact model levels.

METHOD

Search Parameters and Selection of Empirical Articles

Three trained graduate students completed all searches for research in specified behavior analytic journals relating to racial prejudice. Prior to conducing the searches, students were asked to familiarize themselves with the nested model of racism against minority groups posed by Belisle, Payne, & Paliliunas (under review). As well, those conducting the searches were asked to familiarize themselves with the critical race theory levels of implicit bias, white privilege, and system racism in order to discriminate each of the articles main focus. An article identified as relating to implicit bias was defined as one which focused on unconscious thought processes related to racial discrimination. White privilege was defined as focusing on the difference between Black and White people when it comes to benefits and rewards of racial discrimination. Articles identified as pertaining to the unjust laws and policies which unfairly effect minority groups were identified as pertaining to systemic racism.

The search terms "racism" "racial" "prejudice" "stereotype" and "stereotyping" were selected to capture a comprehensive search the research on racial discrimination in behavior analytic journals. Each of the search terms was entered into the Google Scholar search engine along with the names of the behavior analytic journals "Behavior Analysis in Practice" (BAP), "Behavior and Social Issues" (BSI), "Journal of Contextual Behavior Analysis" (JCBS), "Journal of Applied Behavior Analysis" (JABA), "Journal of Organizational Behavior Management" (JOBM), Journal of the Experimental Analysis of Behavior" (JEAB), "The Analysis of Verbal Behavior" (TAVB), and "The Psychological Record" (TPR). Each of these journals was selected as they are major contributors in publishing research in the field. The search was restricted from

the year 2000 to present day, for a total of 40 searches across all search terms paired with each of the identified journals.

Using these search parameters, 611 articles were found in total across all 40 searches. One independent researcher conduced searches across all targeted journals, accounting for 100% of the search results. One independent research conducted the searches for BAP, JABA, JCBS, and TPR, while a separate independent researcher conducted the searches for BSI, JEAB, JOBM and TAVB to complete interobserver agreement (IOA). IOA was calculated for each of the search combinations by dividing the highest number article count by the lowest number article count of retained articles, multiplied by 100. IOA for all searches was 92%. When the two independent raters disagreed on inclusion and coding criteria, the author made the final decision.

Of the articles that were identified, researchers coded by critical race theory level as either pertaining to implicit bias, white privilege, or systemic racism and based on the theory-to-impact model (Dixon, Belisle, Rehfeldt, & Root, 2018) as either theoretical, correlational, translational, or implementation. Articles addressing implicit bias talked about relational frames, white privilege articles noted the differences between White and minority groups, and systemic racism articles discussed the unfair impact on Black people imposed by laws and policies. IOA was calculated for each of the critical race theory level by dividing the highest number articles scored with the same critical race theory level count by the lowest number articles scored with the same critical race theory level of retained articles across all searched journals, multiplied by 100. IOA for all searches was 80% (range 72% - 100%). When the two independent raters disagreed on inclusion and coding criteria, the author made the final decision.

An article was coded as theoretical if there was no study was conducted or if the article was a literature review. Correlational articles included studies where there were measures of

different variables without manipulation to evaluate their relationship. Articles coded as translational included research where variables were manipulated in a contrived setting which did not seek to reduce racism, and implementation articles included studies where the researchers conducted an intervention which sought to reduce racism in an applied setting. IOA was calculated for each of the theory-to-impact model levels by dividing the highest number of articles scored with the same theory-to-impact model level by the lowest number of articles with the same theory-to-impact model level across all journals searched of retained articles, multiplied by 100. IOA for all searches was 87% (range 82% - 100%). When the two independent raters disagreed on inclusion and coding criteria, the author made the final decision.

Content Analysis: Racial Discrimination

Since the interest lies in understanding research relating to racism only articles where the search term was found within the text and were inherently about racial discrimination were retained. Articles with came up within the initial search where the search term was found only in the references were not retained. As well if an article contained the search term within the text but the topic of interest was not directly focusing on racial discrimination was not retained. For example, if the search term "racial" was found in the text describing the demographics of the research's participants and nowhere else within the text, the articles was not retained as it was not directly concentrating on any aspect of racial discrimination. Figure 1 shows the number of articles retained at each level of analysis. Altogether, 39 articles were retained. 15 articles were identified as relating to implicit bias based on the critical race theory levels. 11 articles were identified as relating to white privilege and 13 identified as systemic racism.

These articles were then coded based on the theory-to-impact model. There were 12 potential coding possibilities identified in Table 1 which explains the breakdown of the coding of the retained articles. Of the 15 implicit bias articles, 3 theoretical, 3 correlational, 6 translational, and 3 implementation articles were identified. Of the 11 White privilege labeled articles, 3 were theoretical, 4 was correlational, 1 were translational, and 3 implementation articles were identified. And of the 13 systemic racism articles, 11 were identified as theoretical, 1 was correlational and 1 was translational. There are no articles retained from this search that were identified as implementation research relating to systemic racism.

RESULTS

Of the 611 articles which came up during the initial search, only 39 articles were retained as relating to racial discrimination. Table 2 breaks where each of the articles was published, the critical race theory level, and the theory-to-impact level. In total 15 articles (38.5%) were about implicit bias, 11 (28.2%) related to white privilege and 13 (33.3%) related to systemic racism. Broken down into their theory-to-impact levels in figure 1, 17 (44%) theoretical articles were retained, along with 8 (20.5%) correlational, 8 (20.5%) translational, and 6 (15%) studies were found which attempted to reduce racism in applied settings. Of the 15 articles related to implicit bias, 3 (20%) are theoretical, 3 (20%) are correlational, 6 (40%) are translational, and 3 (20%) are implementation. Of the articles identified as relating to white privilege, 3 (27.3%) are theoretical, 4 (36.3%) are correlational, 1 (9%) are translational, and 3 (27.3%) were identified as implementation. The 13 articles relating to systemic racism contained 11 (84%) theoretical articles, 1 (8%) correlational article and 1 (8%) translational. There is no research in the implementation level of the theory-to-impact model where behavior analysts seek to reduce racism in terms of systemic racism.

Figure 2 depicts the total number of publications within each of the journals evaluated in this search. The 39 articles which were retained in the search fell in only 5 of the 8 journals searched. JABA, JEAB, and TAVB each contained zero publications. JOBM contained 1 article with was recently published in 2020. TPR contained the next highest number of publications at 7 followed by BSI and BAP with 10. BAP contains 11 publications in total. The single article published in JOBM was a theoretical paper on systemic racism. Of the 7 publications in TPR all 7 address implicit bias. No publications in TPR were identified as relating to white privilege or

systemic racism. Two of the 9 articles in TPR are theoretical. There were 3 articles each scored as correlational and translational, with 1 article implementing a treatment which seeks to reduce racism. Of the 10 articles published in BSI the most articles pertained to systemic racism at 4 publications, followed closely by articles about white privilege with 4, and 2 about implicit bias. Seven out of the 10 articles in this journal are theoretical, with 2 translational studies, and 1 implementation research study. JCBS contains a majority of its publications relating to white privilege at 6. There are 4 articles relating to implicit bias and 1 to systemic racism. JCBS contains no theoretical articles related to topics of racial discrimination, 5 correlational articles and 2 translational. JCBS contains the most research related to implementing treatments in applied settings at 4. BAP contains 7 articles on systemic racism, 1 on white privilege and 2 on implicit bias. All but 2 of the articles in BAP on racial discrimination are theoretical, with the 2 other publications being translational.

Figure 3 depicts the cumulative article count, both in total and by implementation articles. In 2002, the first article on racial discrimination in these behavior analytic journals was published, but it was not until 2013 when research in this topic picked up. It was not until this last year in 2020 when significant events took place in the United States did a substantial increase in racial discrimination research began to surface. The first study published implementing antiracism strategies was in 2006 and remained the only one until 2016. In each 2016, 2018, and 2019, 1 article was published implementing strategies to reduce racial discrimination in applied settings. In 2020, 2 more articles were published attempting to reduce racism. In total 6 out of the 39 publications (15%) which have been implemented outside of lab settings to address racism over last 20 years.

DISCUSSION

Since the year 2000, minimal research has been published which attempts to address racial discrimination within the field of behavior analysis. In a little over 20 years only 39 articles have been published addressing the issue and nearly half only provide theoretical ideas or guidelines as to how to address racial discrimination. Compared to the 19 theoretical articles analyzed during this search, only 6 articles reported interventions implemented in applied settings seeking to reduce racial discrimination.

Of the 8 journals utilized for this review only 5 contained publications retained by the search parameters. While JOBM contained 1 publication, the remainder of the articles were found within the journals of BAP, BSI, JCBS, and TPR. JABA, JEAB, and TAVB each contained zero articles within the search parameters. It is important to distinguish BAP, BSI, TAVB, and TPR are journals all owned by the Association for Behavior Analysts International (ABAI; Association for Applied Behavior Analysts International, 2021), and of the 39 articles retained from this search, 27 were published within one of those four journals. JCBS contained 11 of the remaining 12 publications. ABAI serves as an organization which promotes public concerns related to public health and social problems while serving as an outlet for behavior analysts to share and gain research on socially significant issues and it shows through their contributions to addressing racism. The Association for Contextual Behavior Science (ACBS; Association for Contextual Behavior Science, n.d.) owns JCBS who has published a significant portion of the literature on racial discrimination also serving as an outlet for research on socially significant issues.

Implicit Bias

Two of the three theoretical pieces addressing implicit bias focus on the ways for behavior analysts to reduce biases. A previous conducted literature review (Matsuda, Garcia, Catagnus, & Brandt, 2020), applied similar search terms compared to the current review but found little evidence to support behavior analytic interventions to improve racism. They propose several racism reduction strategies and ways for behavior analysts to promote inclusion in their research and work (Matsuda et al., 2020). Matsuda and colleagues (2020) highlight the importance of understanding the roles of stimulus equivalence and relational frame theory (RFT) and how both help account for how beliefs about race are learned. The existence of racial discrimination can be shown behaviorally by stimulus equivalence and as well can be measured by the IRAP. The information this provides allows for the understanding that racist behaviors may prove difficult to eliminate (Matsuda et al., 2020). Knowing this information, behavior analysts should focus their research on implicit biases to account for this. Matsuda and colleagues (2020) mention the role of acceptance and commitment therapy (ACT) as a way to combat racial discrimination and to disrupt relational frames around discrimination. ACT provides a different approach to eliminating prejudice rather than adding in additional information to preexisting frames as that only strengthens their relationships making it harder to eliminate (Matsuda et al., 2020). Matsuda and colleagues (2020) go on to suggest ways to reduce racism with behavior analytic practices. Developing cultural awareness skills along with integrating racial discrimination procedures is highlighted by mindfulness practices. (Fong, Catagnus, Brodhead, Quigley, & Field, 2016). Both Matsuda et al. (2020), and Fong et al. (2016), highlight the key of integrating mindfulness practices within interventions to reduce racism. Mindfulness and other aspects of ACT, such as acceptance and defusion, may provide an

alternative approach to eliminating racism which has not been researched heavily (Matsuda et al., 2020). Key recommendations for culturally competent practices include the combination of self-awareness of personal biases and the confidence of scientific knowledge to produce the highest quality of treatment for clients (Fong et al., 2016).

Understanding your own and your client's cultures are two recommendations for developing culturally competence in treatments presented by Fong et al. (2016). Considering language barriers and cultural identity is just the beginning of what behavior analysts should do to provide effective treatment without biases (Fong et al., 2016). Behavior analysts should also be proactive in addressing their own biases and understanding the culture of their clients before initiating a therapeutic relationship (Fong et al., 2016). Embedding these practices within organizations and graduate training programs can ensure future behavior analysts are exposed to culturally competent treatment as the norm for the field (Fong et al., 2016). Matsuda et al. (2020) recommends as well for organizations to develop trainings on how to reduce discrimination within their businesses.

Correlational research regarding implicit biases all involves the use of the IRAP. The use of public versus private evaluations of racial discrimination, time pressure, electroencephalograms (EEG) signals, and self-report measures were evaluated across several studies. Evaluation of private versus public examination of racial prejudice did not produce significant results (Barnes-Holmes, Murphy, Barnes-Holmes, & Stewart, 2010). During this study participants in the public condition completed the IRAP tasks while the implementer watched and were told their scores on the IRAP would imply their racial biases. The participants in the private condition completed the IRAP tasks without an implementer present and were told their scores would not be evaluated based on racial discrimination. Thought this initial study

yield no significant results, a second study conducted controlling for time altered the outcome (Barnes-Holmes et al., 2010). By applying pressure to respond by limiting the amount of time the participants had to respond to the IRAP tasks revealed greater racial stereotyping IRAP tasks (Barnes-Holmes et al., 2010). Further research regarding the IRAP had participants complete the tasks while measuring EEG signals (Power, Harte, Barnes-Holmes & Barnes-Holmes, 2017a). While results of the IRAP tasks were consistent with prior research, revealing pro-White and anti-Black bias, this study demonstrated anti-Black biases for both positive and negative traits (Power et al., 2017a). EEG results revealed waveforms were more positive for pro-Black relations than for pro-White relations which is inconsistent with the findings from the previous study conducted using both the IRAP and EEG signals, resulting in more research to be conducted to provide an understanding it's consistency (Power et al., 2017a). Correlational research on the IRAP and various self-report measures was also conducted by Power and colleagues (2017b) during this time. They reported of the 30 self-report measures evaluated only 6 were significantly correlated with the results obtained by the IRAP (Power et al., 2017b). Provided this information, the reliance of self-report measures of racial discrimination would be inconsistent with direct measures on most accounts (Power et al., 2017b). One finding to note from the results from this research is that Black participants showed positive bias scores for both Black and Whites, while Whites only showed positive biases towards Whites (Power et al., 2017b).

Further evaluations of the IRAP include an evaluations convergent validity and stimulus equivalence. An evaluation of the IRAP with groups formed by different races revealed racial groups held higher positive in-group biases over negative out-group biases for both Black and White samples (Drake, Kramer, Sain, Swiatek, Kohn, & Murphy, 2015). Contrary to previous

studies which found anti-black biases for White participants, Drake et al. (2015) found out-group biases to be neutral. Using a simultaneous matching-to-sample (SMTS) and a delayed match-to-sample (DMTS) procedure with equivalence training, researchers sought to decrease implicit biases related to Black faces in children living in Brazil (Mizael, de Almeida, Silveira, & de Rose, 2016). Pairing faces of Black and White individuals with positive and negative symbols with the IRAP and measuring how each stimulus effected pleasure using the self-assessment Manikin (SAM; Lang, 1985) revealed a decrease in the biases towards Black faces during testing (Mizael et al., 2016). Post tests revealed that after training participants pleasure levels increased for Black faces and decreased for white faces, however White faces still scored higher (Mizael et al., 2016). An extension on this study introduced a control group where participants in the control produced a lower correlation between their equivalence class formations and negative biases post intervention than both the mixed training and symmetry groups (Mizael, de Almeida, Roche, & de Rose, 2020). Mizel et al. (2020) noted the importance of the participants forming the equivalence classes rather than just mere exposure to Black faces is what aided in the large reduction of negative biases. Mizel et al. (2016) conducted a similar study to previous work which also investigated children's implicit biases using equivalence classes with MTS tasks of Black and White faces to positive and negative symbols. This study found children who were learned the new relations during equivalence training were not guaranteed to produce lower associations between Black and negative stimuli during implicit bias measures (de Carvalho & de Rose, 2014). Several participants were able to reach mastery criterion during the training phases, but negative associations with Black faces still persisted however for other participants equivalence training was enough to reduce implicit biases (de Carvalho & de Rose, 2014).

Evaluation of the effects of psychological distress, academics, and acceptance between majority and minority groups found lower distress for minority groups (Arauz, Danitz, Orsillo, & Coyne, 2017) which is inconsistent with previous research (Eisenberg, Hunt, & Speer, 2013; Young, Fang, & Zisook, 2010). These results may have been due to the different stressors many of the minority participants have being international students which may differ from American students (Arauz et al., 2017). Many of the predictions made prior to the study did not support their hypothesis as minority students did not exhibit lower educational values or more psychological distress but rather were similar compared to majority group levels (Arauz et al., 2017). Another evaluation involving psychological distress looks at self-transcendence and commitment to personal values as mediators to psychological distress and racial prejudice (Florez, Schulenber, Lair, Wilson, & Johnson, 2018). Self- transcendence can be described as the realization that yourself is only a small part of the greater picture and therefore you act in ways which supersede personal values in order to affect the greater good (Florez et al., 2018). Self-transcendence was a predictor for lower levels of prejudice as higher levels of self-transcendence indicate more commitment to the greater good of the community (Florez et al., 2018). More analysis found psychological inflexibility to be a predictor of racial prejudice (Florez et al, 2018) leading for more research to address psychological inflexibility.

ACT is a tool which address psychological inflexibility (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). Using ACT as a tool to facilitate emotional experiences regarding racial discrimination, a Racial Harmony Workshop was evaluated on its effects to reduce racial biases (Williams, Kanter, Peña, Ching, & Oshin, 2020). The Racial Harmony Workshop included the teaching of mindfulness and meditation practices, the promotion of self-reflection and the promotion of social connection while making plans for their incorporation afterwards (Williams

et al., 2020). The workshop was compared to a control group of participants which consisted of a video presentation on how to improve communication regarding race (Williams et al., 2020). Results from the workshop indicated the intervention produced benefits for both minority and majority groups by increasing positive contacts with out-group members, reductions in symbolic racism and microaggressions (Williams et al., 2020). For Minority participants, increased liking for Whites was exhibited in both the control and intervention group whereas only White members of the intervention group showed an increase liking for minority groups (Williams et al., 2020). Using ACT as well, an assessment of the effectiveness of ACT based group interventions on reducing internalized oppression was evaluated for Black women (Banks, Goswami, Goodwin, Petty, Bell, & Musa, 2021). The intervention revealed a reduction in internalized racial oppression along with lower levels of shame and psychological distress (Banks et al., 2021).

Implicit biases specifically regarding Middle Eastern minorities have also been addressed. Specifically addressing the role of relational frame theory to the prejudices held by Americans towards Middle Eastern people after September 11th, it can be used in facilitate the reduction of racism and terrorism (Dixon, Dymon, Rehfeldt, Roche, & Zlomke, 2003). Because direct experience is not needed to learn, dismantling racism is often thought of as resistant to change because adding in additional information often leads to strengthened frames of the information already present (Dixon et al., 2003). An evaluation of relational frame theory and terrorism showed participants were more likely to respond to preexisting frames over the newly formed frames when they do not match to culturally relevant stimuli (Dixon, Rehfeldt, Zlomke, & Robertson, 2006). As well those participants who exhibited stronger racial biases tended to transfer those characteristics to members of minority groups inaccurately (Dixon et al. 2006).

White Privilege

In a world dominated by the favorable outcomes for White individuals, it leaves minority groups to face the oppression and repercussions of society's White privilege. There is a shift beginning in the diversity of America (Miller, Cruz, & Ala'i-Rosales, 2019) and as a society and in our profession change, needs to be done. Generally, minority groups are seen as being less intelligent, less beautiful, having higher rates of mental health problems and lower morality (Malott, 2007) often in part by the effects of White privilege. The effects of White privilege and discrimination are barriers that effect Black men and women in everyday life and within the context of behavior analysis (Cirincione-Ulezi, 2020).

Within behavior analysis diversity is lacking not only in its practitioners (Cirincione-Ulezi, 2020), but in its access to care and leadership as well (Cirincione-Ulezi, 2020; Miller, Cruz, & Ala'i-Rosales, 2019). Acknowledging cultural competence, cultural responsiveness and cultural humility should be a priority for behavior analysts to provide effective care to diverse clients (Miller et al., 2019). It is important to notice privilege held by majority groups in order serve minority groups with the care they deserve. Unfortunately, a majority of the research conducted within behavior analysis contains a majority of its participants from majority groups, and often times ignores the diversity of the participants (Miller et al., 2019). Without the knowledge of participant's racial and ethnic backgrounds, considerations for external validity of the findings, or tools used, are limited (Miller et al., 2019). Several studies have been conducted evaluating measurement tools and how effective they are to minority groups.

Knowledge of how assessment tools relate to minority groups can alter if that tool is a reliable measure for certain individuals and if it was made with the predominant White culture in

mind. The Acceptance and Action Questionnaire (AAQ-II) has been evaluated several times on its appropriateness for racial minorities and have found contradicting results (Borgogna, McDermott, Berry, Lathan, & Conzales, 2020; Correa-Fernández, McNeel, Sandoval, Tavakoli, Kahambwe, & Kim, 2020; Edwards & Vowles, 2020). One study found the AAQ-II to have a cultural bias even though it has been translated into many languages, it still favors the majority culture (Borgogna et al., 2020), while others found racial minority groups responded similarly to the questions as originally intended with no difference to the majority groups (Correa-Fernández et al., 2020; Edwards et al., 2020). Similarly, the Cognitive Fusion Questionnaire (CFQ) was evaluated under similar conditions as the AAQ-II, where the CFQ was found to produce similar responding in a Hispanic population when compared to Americans (Flynn, Hernandez, Hevert, James, & Kusic, 2018).

In addressing White privilege, emphasis on ACT based interventions may play a key role. Creating a connection with one's values via writing a writing intervention provided an experience that acted as a buffer for distressing and negative emotions surrounding racial discrimination (West, Grahm, & Roemer, 2013). The engagement of acceptance practices and commitment of valued actions was also evaluated in a graduate student population (Miller & Orsillo, 2020). Though many graduate student face difficulties when transitioning into that role, minority groups experience added stress related to their race entering their professional careers (Miller & Orsillo, 2020). Higher rates of anxiety and depression along with lower sense of belongingness are all effects of white privilege within the educational system (Miller & Orsillo, 2020). These factors have also contributed to higher attrition rates and impacted academic performance in minority populations (Miller & Orsillo, 2020). Evidence of ACT based interventions have also been evaluated on the individual level as well.

The individualization of ACT has also been evaluated to assess culturally competent practices within behavior analysis. As part of a case study, ACT was used to bridge the cultural gap between a Southern American practitioner and an Asian-Indian client's family in order to provide competent services (Murrell, Rogers, & Johnson, 2009). The incorporation of ACT within the client's treatment plan allowed for the client to begin to live a bicultural life in a world where White culture dominates after focusing on the client's values (Murrell et al., 2009). Bridging the gap between White privilege and systemic racism, privilege in the court system was highlighted by the discounting rates of court outcomes based on white privilege (Weatherly & Kehn, 2013). Steeper discounting, indicating longer sentencing, was indicated for African Americans over White individuals regardless of outcomes and gender (Weatherly & Kehn, 2013).

Systemic Racism

A majority of the publications around systemic racism are theoretical without actually attempting to address the problem at hand. Systemic ideas for change presented in the literature look at legal systems and the field of behavior analysis. Addressing the legal systems in the United States includes creating a lot of change. Unfortunately, police violence is not new, and it has taken place towards Black individuals since the years of slavery (Ghezzi, Funk, & Houmanfar, 2020). Within law enforcement it is important to understand the importance of intersectionality along with race, and how it plays a role in discrimination within the systems of society (Ghezzi et al., 2020). Addressing the biases and well-being of police officers, and others in leadership roles in the community, should be a starting point for interventions to dismantle systemic racism (Ghezzi et al., 2020). The restructuring of the prison system may be key (Crowe

& Drew, 2021). In order to see a change, the restructuring of the prison system should include better mental health care for police officers, engagement of micro-level changes to improve the daily lives of minority groups so less enter the legal system, and police training to decrease the use of punishment procedures on individuals in prison (Crowe & Drew, 2021). At the individual level, ACT base practices are proposed as the best option in reducing racial discrimination as it can help alleviate suffering and experiential avoidance which play a role in systemic racism (Ghezzi et al., 2020). At the group level, prosocial practices should be implemented in order to promote self-efficacy to see a reduction in racial discrimination (Ghezzi et al., 2020).

To seek larger change within the system, the view of language should be altered as well. A post-Skinnerian view of language formation should be embraced in order to dismantle racism and produce new frameworks of understanding how systemic racism continues to be a problem (Mattaini & Rehfeldt, 2020). Behavior analysts should be using what they know about language and its formation to change how people interact with the environment, race and specifically how they interact (Mattaini & Rehfeldt, 2020). As well, metacontingencies involved in systemic racism are complex and difficult to alter (Saini & Vance, 2020). The interlocking behavior contingencies involved create an environment where systemic racism persists over time, even when the people in that system change (Saini & Vance, 2020). Disassembling metacontingenices is a key point in ending racism as it is known that when conflict arises within groups, people often rely on cultural practices that already exist (Saini & Vance, 2020).

Specifically, within the field the principles of behavior analysis can and should be applied in efforts to eliminate racism. Starting with graduate programs and training, the organization of research, curriculums and the diversity of staff and students should be addressed (Conners, Johnson, Duarte, Murriky, & Marks, 2019; Najdowski, Gharapetian, & Jewett, 2020). Research

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within behavior analysis provides a limited sample of diverse participants and in addressing the effects of society on diverse groups (Najdowski et al., 2020). By additional research including diverse samples and addressing the problems minority groups face can create a more clinically valid field of work in the long run (Bolling, 2002). Within educational curriculum, a variety of instructional approaches and diversifying opportunities within classes and practicum settings will allow for more exposure to diverse clients and better preparation for the future (Najdowski et al., 2020). In 2019, only 50 percent of the current behavior analysis graduate programs had a curriculum that addressed working with diverse clients (Conners et al., 2019). As well, in educational settings, diversity in staff and students should be embraced along with the promotion of diverse experiences, embracing differences, and the promotion of allyship with minority groups (Najdowski et al., 2020). Recently only 52 percent of graduate programs held opportunities for working with diverse clients but were provided no training, and near 10 percent of programs offered no opportunities at all (Conners et al., 2019). Diverse cultural trainings should be provided to those in charge of organizations to guide those already in power and to promote diversity and inclusion for those working in the system who may come to power in the future (Akpapuna, Choi, Johnson, & Lopez, 2020). Allowing minority groups to have a voice in facilitating the changes taking place within organizations should allow for equitable outcomes (Akpapuna et al., 2020). It takes the role of those in leadership positions to influence change in their organizations as they hold the capabilities to execute commitment to antiracism practices (Esquierdo-Leal & Houmanfar, 2021).

It is important to begin the conversation about racism. Specifically, how engrained it is in the American society from nuances in everyday conversations, systemic forces, and microaggressions (Guerin, 2005). These conversations should point to new ideas as simply

talking about racism is not going to change it (Guerin, 2005). As well, it is important to take into consideration that not all racist behavior is the same, they themselves are diverse and no one intervention is going to work for changing them all (Guerin, 2005). The open conversation about racism should also extend to children and individuals with disabilities as they too will experience and understand its impact (Melendez, Tan, Lau, & Leung, 2020). Helping children understand the impact systemic racism has on education, policies, funding, and themselves is important in seeking change (Melendez et al., 2020). In helping children learn about racism, behavior analysts can help ease the impact of systemic racism factors by implementing ACT based interventions to weaken the biases that already exist (Melendez et al., 2020). ACT based interventions will likely lead to valued living which can weaken the impact of racism on factor such as anxiety and stress (Graham, West, & Roemer, 2015). ACT may be the way to reduce minority group's personal impact of racial discrimination, however great change needs to be done to see the elimination of racism and its impact and the only way to do so is to change the way the system operates (Graham et al., 2015).

Creating unity between minority and majority groups is essential in order to see a reduction of racial discrimination (Li, 2020). The role Black individuals, and other minority groups, have in advocating for themselves is clear, however White individuals need to be involved in advocating for change as well (Li, 2020). Behavior analysts are called to address socially significant behaviors, so it is important racial discrimination is addressed by behavior analysts and within the system (Crowe & Drew, 2021).

Call to Action for Future Research

Racism research has become more relevant in the past few years, gaining momentum in 2020 after instances of police brutality surfaced in the media. Though the topic of antiracism has made way into behavior analysis, a majority of the literature on the topic is theoretical. Behavior analysts are called to address socially significant behaviors (Cirincione-Ulezi, 2020; Crowe & Drew, 2021), yet little is being done to decrease racial discrimination. There have been several ideas and pointed direction on how to target racist behaviors, yet only 6 studies have attempted to do so in the last 20 years. Expanding on the ideas presented in theoretical articles, and the knowledge gained across correlational, translational, and previous implemented treatments is essential for the future of racism research.

Minimal research has been conducted across all areas of racial discrimination. Specifically testing out ideas for antiracism interventions in controlled lab settings is limited, with even less work implementing them in real world settings. Much of the implemented interventions have used ACT as a way to reduce discrimination related to implicit biases and white privilege (Murrell et al., 2013; Miller et al, 2020), and should be investigated further and on a larger scale (Matsuda et al., 2020). Involving systemic racism, no research has been conducted implementing antiracism strategies and should be a focus moving forward. Another focus for the future of antiracism research should involve all minority groups. Racial discrimination affects all minority groups in American yet most research involves anti-Black discrimination among White people (Amodio, Devine, & Harmon-Jones, 2007). Though there have been a few studies addressing discrimination of Hispanic (Edwards et al., 2020; Flynn et al., 2018) and Middle Eastern individuals (Dixon et al, 2003; Dixon et al, 2006), further investigation of how racism effects these populations and effective antiracism interventions would be beneficial. As well, minimal research had been conducted on how racial discrimination

effects those who experience it daily (Matsuda et al., 2020) and of the work that had been completed (Graham et al, 2015) effective values-based interventions have shown success in the reduction of anxiety and stress related symptoms.

Previous research on racial discrimination often focuses on interventions for White people and how racism impacts them. A majority of the participants with the implementation research are White and tend to focus on how to reduce their racist behaviors. Instead, the focus for future research should on how racial discrimination should focus on the impacts of implicit biases, white privilege, and systemic racism on the daily lives of minority populations. Seeking to reduce racist behaviors of White people is important and should still be of concern, however the impact of racism on minority populations should be of importance as well.

Limitations of the present literature review should be addressed in future reviews as well. IOA was lower than desired on all accounts. Altering the operational definitions for a more defined retention criteria should be addressed for higher IOA in the future. More precise definitions of what qualifies as being inherently about racism would improve IOA on all accounts. As well, more prior information on the qualifications of what would qualify an article as relating to implicit bias, white privilege, and systemic racism along with the levels of the theory to impact model should improve IOA in the future. Additionally, all researchers involved in the current review, the author and trained students who conducted IOA, are Caucasian, which could have affected their interpretation of the research. It is important to acknowledge that the researcher have their own biases and can affect the way they interpret the research they are reading based on their personal history. This paper poses another limitation in that it does not seek to change any aspect of racial discrimination. A majority of the current research in behavior analysis is theoretical in nature, where the researchers also accumulate ideas or present new ones

on how to address racism. The current paper only adds to that majority and does not attempt to address any form of discrimination. The information presented in this paper should guide future areas of research based on the findings and treatments already evaluated.

Behavior analysts are called to address socially significant behaviors, and now more than ever racial discrimination should be addressed. Currently ABAI and ACBS are the large organizations in the field promoting this research and should continue to do so. In addressing racial discrimination, the assessments and tools used in treatment should be evaluated for any biases towards the majority culture as some research on assessment tools has reveal this bias (Borgogna et al., 2020)). Addressing this issue can lead to an improvement in service delivery for diverse populations receiving behavior analytic services. Becoming familiar with other cultures and being aware of how culture effects clients will allow for more effective strategies in reducing racial prejudice (Dixon et al., 2003). As behavior analysts are to address socially significant behaviors, racial discrimination should continue to be a topic of research moving into the future.

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	Theory-to-Impact Model Level			
	Theoretical	Correlational	Translational	Implementation
Critical Race Theory Level				
Implicit Bias	3	3	6	3
White Privilege	3	4	1	3
Systemic Racism	11	1	1	0

Table 1. The retained articles were coded based on their critical race theory level and their theory-to-impact level into one of 12 possible coding options. This table breaks down where the racism research lies within behavior analysis.

Author, Year	Journal	Critical Race Theory Level	Theory-to-Impact Level
Akpapuna, Choi, Johnson, & Lopez, 2020	Journal of Organizational Behavior Management	Systemic Racism	Theoretical
Arauz, Danitz, Orisillo, & Coyne, 2017	Journal of Contextual Behavior Science	Implicit Bias	Translation
Banks, Goswami, Goodwin, Petty, Bell, & Musa, 2021	Journal of Contextual Behavior Science	Implicit Bias	Translation
Barnes-Holmes, Murphy, & Barnes-Holmes, 2010	The Psychological Record*	Implicit Bias	Correlational
Bolling, 2002	Behavior and Social Issues*	Systemic Racism	Theoretical
Borgogna, McDermott, Berry, Lathan, & Gonzales, 2020	Journal of Contextual Behavior Science	White Privilege	Correlational
Cirincione-Ulezi, 2020	Behavior Analysis in Practice*	White Privilege	Theoretical
Conners, Johnson, Duarte, Murriky, & Marks, 2019	Behavior Analysis in Practice*	Systemic Racism	Translation
Correa-Fernández, McNeel, Sandoval, Tavakoli, Kahambwe, & Kim, 2020	Journal of Contextual Behavior Science	White Privilege	Correlational
Crowe & Drew, 2021	Behavior Analysis in Practice*	Systemic Racism	Theoretical
de Carvalho & de Rose, 2014	The Psychological Record*	Correlational	Translation
Dixon, Dymond, Rehfeldt, Roche, & Zlomke, 2003	Behavior and Social Issues*	Implicit Bias	Theoretical
Dixon, Rehfeldt, Zlomke, & Robinson, 2006	The Psychological Record*	Implicit Bias	Translation
Drake, Kramer, Sain, Swiatek, Kohn, & Murphy, 2015	Behavior and Social Issues*	Implicit Bias	Translation
Edwards & Vowles, 2020	Journal of Contextual Behavior Science	White Privilege	Correlational
Esquierdo-Leal, & Houmanfar, 2020	Behavior Analysis in Practice*	Systemic Racism	Theoretical

Table 2 continued.

Author, Year	Journal	Critical Race Theory Level	Theory-to-Impact Level
Florez, Schulenber, Lair, Wilson, & Johnson, 2018	Journal of Contextual Behavior Science	Implicit Bias	Implementation
Flynn, Hernandez, Hebert, James, & Kusick, 2018	Journal of Contextual Behavior Science	White Privilege	Implementation
Fong, Catagnus, Brodhead, Quigley, & Field, 2016	Behavior Analysis in Practice*	Implicit Bias	Theoretical
Ghezzi, Funk, & Houmanfar, 2021	Behavior Analysis in Practice*	Systemic Racism	Theoretical
Graham, West, & Roemer, 2015	Journal of Contextual Behavior Science	Systemic Racism	Correlational
Guerin, 2005	Behavior and Social Issues *	Systemic Racism	Theoretical
Li, 2020	Behavior Analysis in Practice*	Systemic Racism	Theoretical
Malott, 2007	Behavior and Social Issues*	White Privilege	Theoretical
Mattaini & Rehfeldt, 2020	Behavior and Social Issues*	Systemic Racism	Theoretical
Matsuda, Garcia, Catagnus, & Brandt, 2020	Behavior Analysis in Practice*	Implicit Bias	Theoretical
Melendz, Tan, Lau, & Leung, 2020	Behavior Analysis in Practice*	Systemic Racism	Theoretical
Miller, Cruz, & Ala'i-Rosales, 2019	Behavior and Social Issues*	White Privilege	Theoretical
Miller & Orsillo, 2020	Journal of Contextual Behavior Science	White Privilege	Implementation
Mizael, Almeida, Roche, & de Rose, 2020	The Psychological Record*	Implicit Bias	Translation
Mizael, Almeida, Silveria, & Rose, 2016	The Psychological Record*	Implicit Bias	Implementation
Murrell & Rogers, 2009	Behavior and Social Issues*	White Privilege	Implementation
Najdowski, Gharapetian, & Jewett, 2020	Behavior Analysis in Practice*	Systemic Racism	Theoretical
Power, Harte, Barnes-Homes, & Barnes-Homes, 2017a	The Psychological Record*	Implicit Bias	Correlational

Table 2 continued.

Author, Year	Journal	Critical Race Theory Level	Theory-to-Impact Level
Power, Harte, Barnes-Homes, & Barnes-Homes, 2017b	The Psychological Record*	Implicit Bias	Correlational
Saini & Vance, 2020	Behavior and Social Issues*	Systemic Racism	Theoretical
Weatherly & Kehn, 2013	Behavior and Social Issues*	White Privilege	Translation
West, Graham, & Roemer, 2013	Journal of Contextual Behavior Science	White Privilege	Correlational
Williams, Kanter, Peña, Ching, & Oshin, 2020	Journal of Contextual Behavior Science	Implicit Bias	Implementation

Table 2. Summary of articles on racism within behavior analytic journals.
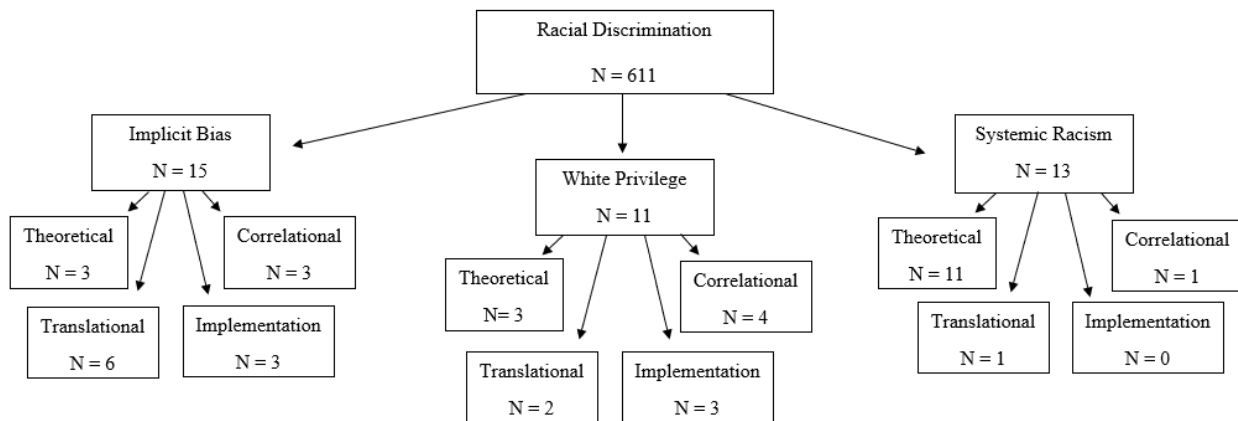* Published with journals owned by ABAI

Fig 1. Breakdown of the retained articles along the critical race theory levels and the theory-to-impact model.
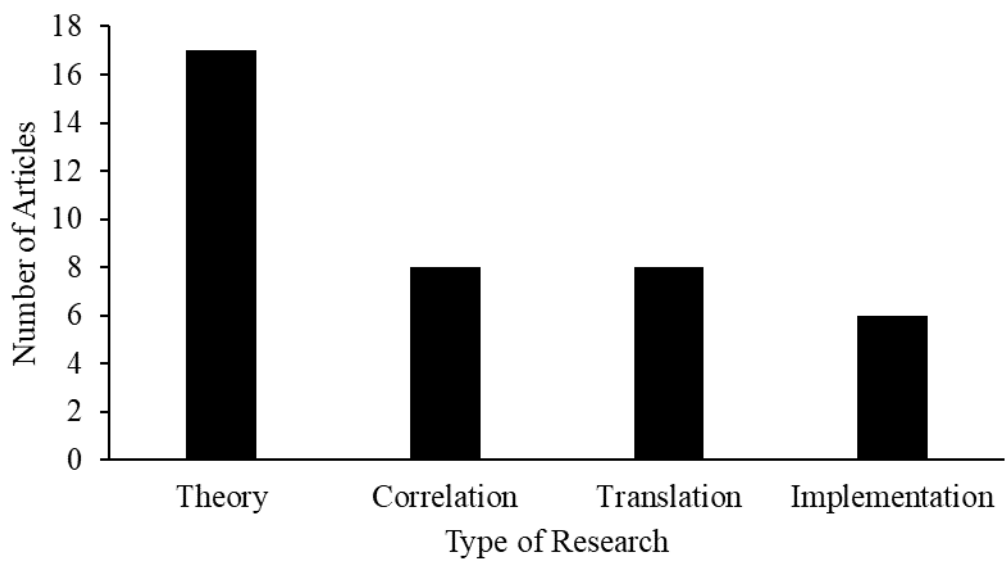
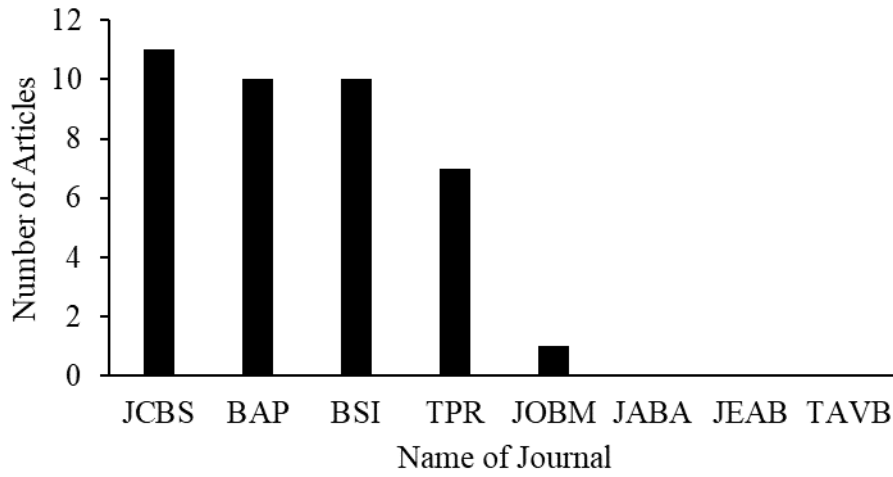Figure 2. Number of articles broken down into their theory-to-impact level.

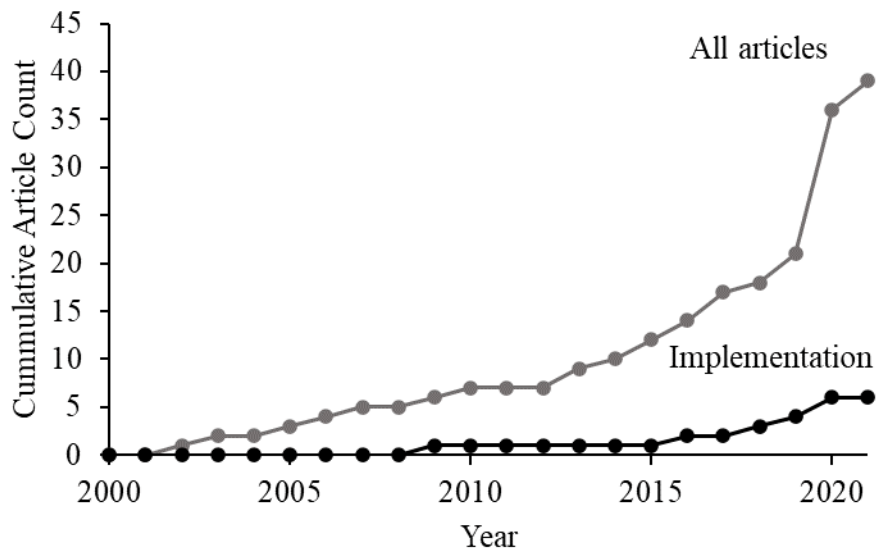Figure 3. Total number of articles published in leading behavior analytic journals.

Figure 4. Cumulative number of articles published about racism and the cumulative number of articles seeking to address racial discrimination within applied settings.