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Socioeconomic Status and Recognized Talent in Scholastic Art Awards

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**SOCIOECONOMIC STATUS AND RECOGNIZED TALENT IN
SCHOLASTIC ART AWARDS**

by

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B.A. MUSIC, LAWRENCE UNIVERSITY, 1993

THESIS

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ABSTRACT

Recognition of their early artistic accomplishments starts many young people on a path leading to adult success in art, but art learning opportunities and talent recognition may be afforded inequitably. In this records-based quantitative study, the researcher looks for evidence of inequity as it may appear in the context of the 2020 New Mexico Scholastic Art Awards (NMSAA), a regional partner of a high-profile national art contest, with 1,016 entries from 394 students in Grades 7-12 in 50 schools. NMSAA stands as an aspirational art achievement measure providing information about the highest levels of art achievement. The results support the hypothesis that the contest would recognize art talent unequally to students of high and low socioeconomic status, but with only a small effect size ($\approx .20$), suggesting that in this context some unkown factors were working for equity, with implications for future studies of aspirational art assessment.

Keywords: art talent, recognition, equity, socioeconomic status, art achievement, art excellence gap

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Recognition of their early artistic accomplishments starts many young people on a path leading to adult success in art (Bloom & Sosniak, 1985; Clark & Zimmerman, 2004; Csikszentmihalyi, Rathunde, & Whalen, 1997; Golomb, 1995, 2004). Both individuals and society as a whole benefit when all young people have essential opportunities to fully develop their potential (Csikszentmihalyi, 1996; Subotnik, Olszewski-Kubilius, & Worrell, 2011), but art learning opportunities and recognition of talent may be afforded inequitably (Gaztambide-Fernández, Saifer, & Desai, 2013; Kraehe, 2017). Between high- and low-SES students, significant differences have been reported in average achievement scores on the National Assessment of Education Progress (NAEP) Visual Art test (Keiper, Sandene, Persky, & Kuang, 2009; National Center for Education Statistics, n.d.-a), but NAEP Visual Arts tests only report achievement up to the low ceiling of *sufficient* on evaluative rubrics, lacking information about higher levels of achievement that would indicate recognition of visual art talent.

In this nonexperimental quantitative study, I look for evidence of inequitable recognition as it may appear in the context of the 2020 New Mexico Scholastic Art Awards (NMSAA). NMSAA, a high-profile, statewide art contest associated the national Scholastic Art and Writing Awards (SAA) organized by the Alliance for Young Artists & Writers, Inc., serves as the setting in which I study recognition of artistic talent. I examine records-based data of 1,016 student entries from 394 individual students in 50 schools in the 2020 NMSAA contest to test the hypotheses (a) that NMSAA has awarded recognition unequally to students of varying socioeconomic status as indicated by levels of federal support for a student's school, and (b) that likelihood of receiving an award

increases with an entry's school SES. These school SES data serve as an index of

individual socioeconomic disadvantage and educational opportunity. I explore patterns in

the data in order to better inform future efforts to examine differences in antecedent

opportunities and pivotal recognition of art talent, with the goal of contributing to a

transformation of art education towards greater equity overall (Kraehe, 2017).

Six Principles of Equity in Art Education

Art educators face ethical challenges when making decisions that affect their

students' learning and growth. In a fictionalized composite narrative, Kraehe (2017) explored

examples of the impact that everyday educational decisions make on the experience of art

education for all students. She defined an equitable approach to art education not as equal

support for all students, but as extra support for individuals and groups needing more in order

to fulfill their potential, and as such "a core concept for theorizing social justice" (p. 268).

Her framework includes six principles for analyzing equity in art education, including (1)

distribution of resources, (2) openness of access, (3) support for participation, (4) monitoring

of effects, (5) recognition of talent, and (6) aspiring for transformation of inequitable systems.

Kraehe characterized as uniquely problematic the issue of inequitable recognition of

talent across diverse groups, "an insidious and largely unconscious process in art education"

(p. 273) that results too often in some students being "denied the right to participate as equals

in the making of culture" (p. 274). I chose talent recognition as the focus of my study because

it is also a pivotal principle: Without appropriate recognition of culturally, linguistically,

racially, and economically diverse students' high potential, insufficiency and inequity persist

in other dimensions of distribution, access, participation, effect, and aspiration for

transformation. In other words, those unrecognized for their artistic potential do not receive

access to opportunities needed to develop artistic potential (Feldman, 1985), such as specialized arts education programs in high school, college, and beyond.

More than other arts fields, the field of visual art has "a less rigorous and formally defined knowledge base" (Milbrath, 1995, p. 102), and lacks agreement about what may be classified as art, confounding consensus about definition of artistic talent. But a culturally contextualized definition of talent and the lens of Kraehe's principle of talent recognition for equity are the foundation for discussing the topic. With these I investigate the assumption that socioeconomic status may be predictive of talent recognition, and I explore implications for future study to improve equity in art education. While my study begins by examining the impact of economic advantage and disadvantage, future studies must also address presumed disparities in opportunity and recognition associated with differences in race, culture, language, and gender.

Examining Inequity at the Highest Levels of Achievement in Art

What opportunities are essential in order to develop visual art talent, and how equitably do schools distribute such opportunities across diverse demographics? These questions span the fields of gifted education, in which researchers have gathered substantial quantitative evidence pointing to increasing educational inequity known as the issue of an *excellence gap* (Hardesty, McWilliams, & Plucker, 2014; Olszewski-Kubilius & Corwith, 2018; Burroughs & Plucker, 2014; Plucker, Burroughs, & Song, 2010) and art education, a field showing signs of renewed interest in developing the potential of high-ability or talented students (Fisher, 2019) coinciding with new attention to issues of equity (Kraehe, 2017). In my review of literature, I seek to make connections between research about excellence gaps, talent, and equity in art education, in order to define key

terms and justify my investigation of patterns of art talent recognition and socioeconomic diversity.

While the topic of developing potential with an eye toward early recognized creative accomplishment has been addressed by researchers in the fields of art education, gifted education, and cognitive and social psychology, conclusive findings seem not to have accumulated in art education (Boughton, 2014). Any quantitative analysis of achievement gaps across socioeconomic subgroups would depend on refined quantitative measures of student knowledge, skill, and reasoning within any domain. But achieving a scientific standard for valid measurement of learning remains elusive in art education (Boughton, 2019; Sabol, 2013), which resists a culture of consensus about the knowledge, values, and rules within the field (Golomb, 1995; Kindler, 1999; Pariser & Zimmerman, 2004). As Sabol (2013) notes, for the field of art education, assessment "constitutes troublesome terrain that arts educators are still working to traverse" (p. 36).

The 1997, 2008, and 2016 NAEP Visual Art subject tests, for example, have been administered among representative samples of students in public and private schools, but the U.S. Department of Education discontinued NAEP testing in 2019. The 2008 and 2016 results evidenced an achievement gap between students eligible for and those ineligible for National School Lunch Program (NSLP) subsidies (Keiper, et al., 2009; NCES, n.d.-a), but did not report about advanced levels of achievement in creating art. These tests used a scoring rubric for evaluating artistic responses with the low ceiling of *sufficient*, lacking data that would describe advanced levels of performance in the field of visual art and preventing analysis of art excellence gaps. Whereas an achievement gap would appear in average achievement measures across an entire population, an excellence

gap would indicate disparities in attainment of the highest levels of skill and knowledge. These highest levels of achievement are associated with recognition of high potential and admittance into specialized learning programs.

Quantitative Methods with Scholastic Art Awards

In order to begin to address the topic of possible excellence gaps in art education and their implication for equitable talent recognition, I focus this study on quantitative, records-based data newly collected in the context of one, empirically observable event connecting young artists to art worlds (Becker, 2008) extending beyond the boundaries of their own school. Quantitative methods serve as the entry point for speculation and further inquiry about the relationship between opportunity and talent recognition and provide evidence that may be useful in forming research questions for further quantitative and qualitative studies. While no claims of generalizability may be made from the results of this empirical study, their validity may be interpreted in the context artistic talent recognition within NMSAA, a regional iteration of Scholastic Art Awards (SAA), itself an art world of national scope, to the extent the regional NMSAA maintains fidelity to the principles and practices of the national program. SAA is the oldest and most widespread art awards program for youth in the nation (Kay, 2019) with "enormous influence on secondary art education in American schools" (Antonelli, 2004, p. xvi). A review of literature reveals, however, that the most recent peer-reviewed quantitative study of SAA winners was published more than fifty years ago (Anderson, 1969).

Literature Review

Recognition and The Socially Constructed Artist in Art Fields

Who is called an artist, or more pertinently for the study of art talent recognition, who decides whom will be called an artist? Recognition, Kraehe's (2017) fifth principle of equity in art education, hinges upon defining the artist in a social context. In art education scholarship, though universalistic views persist, the nonuiniveral, socially and culturally contextualized artist as an individual positioned within the field of art is not a novel concept. Feldman (1985) made a case against universal theories in art education, a "cultural argument" (p. 89) for nonuniversal individual artistic development along a continuum of progressively smaller social circles of influence. Art education scholars have strongly advocated for the socially contextualized model of artistic creativity articulated by Csikszentmihalyi (1988) as a system of three elements (MacGregor, 1995; Milbrath, 1995; Pariser, 1997, 2015; Pariser & Zimmerman, 2004). Csikszentmihalyi's summary of the systems model included (1) a culture of symbolic knowledge and rules, (2) a person whose achievements contribute novelty to the domain, and (3) "a field of experts who recognize and validate" (Csikszentmihalyi, 1996, p. 6). Kraehe's narrative of art education practice of equitable recognition also built upon Csikszentmihalyi's systems model of creativity, and more recently, Boughton (2019) also sourced the systems model as a sound basis for assessment of art learning, an activity closely associated with recognition of artistic talent.

The social dynamics of recognition and validation as an artist are essential to belonging; as Bourdieu (2002) elucidated, "it is one of the properties of 'fields' that the question of belongingness to this universe is at stake in the very midst of these universes"

(p. 1). His theory of field extended to all kinds of cultural arenas as well as artistic

domains, with attention to the structures and dynamics of power and social forces that

determine position within a field (Bourdieu, 2010; Bottero & Crosslery, 2011).

Bourdieu's approach to analysis of a field was to examine the social spaces and

positioning that determine access and control of cultural and economic resources,

boundaries, identity, taste, and recognition (Bourdieu, 1993). The American

Psychological Association defined the concept of *field* as "human activity or knowledge"

(APA Dictionary of Psychology, n.d, para. 1), combining the concepts of a domain of

knowledge and those who act within that domain. In their psychological study of high

performance across domains, Subotnik, Olszewski-Kubilius, & Worrell (2019) identified

influential actors pivotal to recognition in a field as *gatekeepers*, controlling admittance,

regulating changes to its canon, and responding to innovations.

      For the purpose of understanding the recognition of talent in young artists, fields

of artistic inquiry may be understood as socially constructed and maintained by

gatekeepers. This concept of field as a domain of both ideas and people is consistent with

Kuhn's (1962) definition of *normal science*. Like normal science, recognized approaches

to inquiry in art are a form of research that builds upon defining achievements accepted

by the field as "a foundation for further practice" (p. 10) making up a paradigm. Included

in Kuhn's conceptualization of defining achievements are "law, theory, application, and

instrumentation" (p. 10) as well as "rules and standards for scientific practice" and

prerequisite "commitment and apparent consensus" (p. 11). To support a better

understanding of the interactions within a socially constructed field of art and among its

gatekeepers and its promising young artists, I translate Kuhn's elements of scientific

communities into art terms: Fields of artistic inquiry are defined by (1) artistic

achievements forming a foundation for further practice; (2) artistic principles and theory

and their application with artistic tools, mediums, and techniques; (3) rules and standards

(more commonly conceived in art as design criteria or aesthetics); and (4) commitment to

and consensus about all of the above. Art students seeking recognition as artists must

display sings of these characteristics in their work. Framing art in a social context as a

field or fields of inquiry and artists as the productive participants in a field is useful for

critical analysis of dynamics of inclusion and recognition of artistic talent.

Adopting for art education a concept of fields moves the discussion about artistic

identity beyond conflicting assumptions about who or what an artist is, or how artists

differ from non-artists, but also sidesteps an important discussion about student agency

and the art teacher's pedagogical role in facilitating a student's development of an artistic

self (Walsh, 2002). For the purpose of inquiring about talent recognition, however, I

frame this research within the socially contextualized dynamic of an individual being

recognized as an artist by others based on successful display of accepted knowledge and

skills in art. While Bain (2005) described professional artists' cultural capital as "a

repertoire of attributes that artists can relate to and can selectively draw upon to reaffirm

their occupational identity" (p. 30), I reason that recognition also comes as a result of a

teenager projecting an identity of artist by embodying in entries to an art contest signs of

requisite cultural capital. From this perspective a successful artist is someone who, using

a visual repertoire of recognizable signs of artistic identity, negotiates active participation

with others in a field of artistic inquiry. The successful artist creates art that is valued by

the field. While I feel it is valuable to look at the effort of the individual in identifying as

an artist, I frame this study by addressing the social dynamics between the individual and the field mediated by art.

Connecting Diverse Young Artists to Art Fields in Art Education

The concept of an artist as member of a field is consistent with educational theory underlying late 20th-century trends in education stemming from post-World War II educational reform. Bruner (1977) argued that the "fundamental structure" (p. 11) of any subject must be learned in order to apply knowledge to solve problems in that subject and to transfer knowledge to new contexts. He envisioned children in school engaging with the methodologies of practitioners in each discipline:

> What a scientist does at his desk or in his laboratory, what a literary critic does in reading a poem, are of the same order as what anybody else does when he is engaged in like activities–if he is to achieve understanding. The difference is in degree, not in kind. (p. 14)

Barkan (1962) anticipated a transition in American art education growing directly from Bruner's education theory, a movement that came to be known as discipline-based art education (DBAE) (Clark, Day, & Greer, 1987). In search of art disciplines upon which to base art education, proponents of DBAE theory included with art studio practice the academic disciplines of aesthetics, art criticism, and art history (Delacruz & Dunn, 1996). These three disciplines are Western civilization's scholarly support system for artists and their art, lending academic legitimacy to art education (Wilson, 1997). Critics noted that by expanding art education's boundaries beyond the work of the artist, DBAE teachers reduced the proportion of time their students practiced distinctly artistic inquiry (London, 1988), and diluted the relationship between learning art in school and the work of artists;

it became different in kind, not degree. An authentic connection between an art student and field helps culturally, racially, linguistically, and economically diverse students who have high potential in art stay motivated (Milbrath, 1995). It does not necessitate in all cultures, however, inclusion of academic disciplines of aesthetics, art criticism, and art history–scholarly partnerships that may not be present in diverse art worlds (Chalmers, 2019; Hamblen, 1987). McFee (1998) argued against the presumption that "a single culture's art be taught" (p. 79) in DBAE curriculum, and promoted expanding it to include diverse objects of visual culture and a stated purpose "to make art the avenue for cross-cultural understanding, so needed in the world today" (p. 81). For an authentic, discipline-based curriculum connecting diverse young artists to professional practice, however, art educators need not expand their curricular scope beyond methodolgies of art-making. At the turn of the 21st century, in fact, new approaches to forging the connection between art students and the work of artists began to emerge, examples of which I summarize below.

Hamblen (2003) implored art educators to seek to enable transfer of knowledge between the contexts of school art, professional art, and art of the everyday lives of students. Milbrath (1995) warned that one consequence of failing to make such a connection evident to students would be negative impact on motivation, engagement, and participation of students with high potential in art. In order to ensure equitable participation, Kraehe's (2017) third principle of equity, art education approaches must center on artistic practices to connect culturally, racially, linguistically, and economically diverse art students to professional practice in art fields. Such approaches focus on the diverse knowledge, methodologies, theories, and paradigms that are the tools of artists at

work, communicating to students fundamental structures of artistic inquiry. Gude (2004)

proposed postmodern principles of art education based on art as a form of research

exploring locally relevant themes, diverse practices, and authentic methods of artistic

investigation. Marshall & Donahue's (2014) curriculum also exemplified this focus,

describing art-centered learning that is interdisciplinary and modeled on the practice of

contemporary artists. Hetland, Winner, Veenema, and Sheridan (2007) also outlined the

thinking dispositions evident in pedagogical approaches consistent with professional

practice, introducing to art educators the studio thinking framework. Centering art

education on processes and practices of distinctly artistic inquiry also facilitates

adaptation within changing, discursive definitions of the arts as a discipline across

demographic categories and power structures. Gaztambide-Fernández (2013), in an

attempt to circumvent and disrupt "the prevailing normative and technocratic view of

education," advocated for art education in which learners are "engaging in practices and

processes of symbolic creativity" and having "actual experiences . . . that evolve within

contexts defined by practices and processes of symbolic creativity" (p. 213) more closely

aligned with contemporary art.

      Encompassing many diverse fields of art in an authentically discipline-based

approach to art education demands openness to the conceptualization of art as comprised

of not just one unified field, but many fields of artists engaging with diverse

methodologies, theories, and paradigms. Equitable talent recognition requires a kind of

pluralism that as been described as advancing gradually in art education in the last quarter

of the 20th century. Wilson and Thompson (2007) noted that "modernist myths pertaining

to originality and universality began to fade" (p.1) in the 1970s, and in the 21st century

the redefinition of art education in terms of *visual culture* challenged these myths.

Kindler (1999) pointed to the 1950s as the start of "the notion of art as an open concept"

(p. 330) and to the 1980s as the first discussion in the field of art education of multiple

endpoints of artistic development. She called art an "ill-defined category" (p. 333) and

her studies suggested that developing artists employ various pictorial repertoires for

varying purposes throughout their non-linear development, and emphasized the validity

of multiple definitions of art:

> The understanding of what art is, could be, or should be is guided by the universe
>
> of classification rules too vast to allow for an operational definition that would
>
> hold to the scrutiny of various social, political, cultural, ethnic, racial, religious,
>
> ideological, or aesthetic perspectives. (p. 330)

Extending a pluralistic mindset also to aesthetic sensibilities, Hamblen (2003) noted

"discrepancies among the knowledge, values, and attitudes in differing art contexts which

constitute constellations of specific types of art knowledge, skills, behaviors, and

attitudes" (p. 14). In order to encompass all constellations of art learning, art educators

need a wide-angle theoretical lens that originated not in art criticism, aesthetics, or art

history, but grew from the intereaction of art education with sociology.

Art Education, Art Talent Recognition, and Becker's Art Worlds

LaChapelle (1984) proclaimed "that the general field of art education is in need of

a corrective input from a revitalized sociology of art" (p. 39). He challenged the view,

evident in Lowenfeld's (1982) influential writing on artistic development, that artistic

growth and creativity occur independently of social context. LaChapelle asserted that art

education would benefit from understanding aesthetics to be dynamically constructed in

the midst of ongoing social activity. He introduced the sociological conceptualization of

multiple, diverse fields of art, or *art worlds*, using the term Becker (2008) coined in the

study of the sociology of art. In contrast to the aesthetician's problematic work of

delineating, defining, and defending one universal aesthetic principle, Becker (1976)

described his sociological approach:

> We look for groups of people who cooperate to produce things that they, at least,
>
> call art; having found them, we look for all the other people who are also
>
> necessary to that production, gradually building up as complete a picture as we
>
> can of the entire cooperating network that radiates out from the works in question.
>
> (p. 704)

 By this view, active participants in each art world construct its distinct culture,

and the cultural distinctions between art worlds appear from within them as shared

aesthetics, norms, and ideas. Art worlds theory has been extended even to the

microsociological study of shared aesthetics, norms, and ideas in art worlds as small as

collaborative teams (Corte, Parker, & Fine, 2019). The art educator who looks through

this lens may assess of equal value the norms and values of art worlds small or large,

central or marginalized, prominent or insignificant. Adopting a view of multiple socially

constructed art worlds may allow the art teacher to approach the issue of pluralism

flexibly, to be open to differing aesthetics and norms, and to lean on an established

perspective for analyzing changes in culture and differences across cultures as they relate

to art.

Becker (1976) introduced a framework for studying art worlds, defined as "the

network of people whose cooperative activity, organized via their joint knowledge of

conventional means of doing things, produces the kind of art works that art world is noted for" (Becker, 2008, p. xxxiv). Taylor (2019) pointed out Becker's "focus on the social conditions . . . , that is, the relationships and circumstances that facilitate or obstruct the categorization of some practitioners, practices, and outputs as belonging to art worlds" (p. 457). The path of an artist into acceptance and even prominence in any art world, as Becker conceptualized it, might be examined by exploring the roles of all contributors to the success of the artist and examining the social function of participants' shared activities, understandings, and norms. Participants in an art world include those who the community calls artists as well as those who are seldom called artists, i.e., those responsible for mobilizing the resources, both material and personnel, and marketing, distributing, curating, editing, selecting, viewing, and evaluating what is called art within that community. Each art world "consists of an interconnected group of actors who perceive common interest and who are embedded in a network of social relations" (Fine, 2004, p. 5).

Acceptance into an art world also requires successful socialization to be aware of and make effective of use of cultural capital. A form of cultural capital unique to visual art worlds is knowledge of and skill with *artistic conventions*, which Becker connected to art historian Gombrich's (1960) use of the term for "ways of seeing . . . that were known by everyone involved and thus formed the basis for their collective action" (Becker, 2008, p. xv). Golomb (2004) also noted that success "calls upon many propitious circumstances both internal to the artist and external in terms of the gategkeepers of the art world: the curators, gallery owners, and critics who determine to a large extent the style and the subject matter that is valued and marketed" (p. 47). With both opportunity

and effort to master the conventions of an art world, an art student may signal to viewers the posession of cultural capital deemed essential for acceptance into an art world.

LaChapelle (1984) maintained that art education research and practice must be interdisciplinary, recognizing "the intellectual crossroads of art education, with interests both in the educational process of the young and adults and in the visual arts and aesthetics of our culture," and also recognizing "that the highly social nature of those interests make an effective sociology of art of vital concern to art education" (p. 39). With an understanding of art worlds and our own role as participants in them, art educators may start a reinvigorated discussion about issues of artistic development and assessment of learning in art. These lines of inquiry, while essential to the issue of equity in art education, are cut short by an unpropitious description of art as a field that is ill-defined. A more energizing assumption for continued inquiry would be to define art as made up of many fields socially defined. Circumscribing dynamics of power and recognition and paths to prominence in art worlds, I adapt the sociologist's framework to my study of disparities in recognition of art talent recognition.

The Problem of Equity of Recognition and of Effect

Psychologists, Subotnik, Olszewski-Kubilius, and Worrell (2011), reaffirmed that an artist's journey hinges upon the recognition of a learner's developing talent by gatekeepers of their field. They cited research to recommend that the judgment of experts about the potential of a learner can be effective, identifying those with high potential by such characteristics as fast learning, early demonstration of domain-specific competencies, and high levels of motivation. But equitable identification of high potential in art can be problematic due to persistent misrecognition of dominant-cultural capital as

talent (Bourdieu, 1986). Gaztambide-Fernandez, Saifer, & Desai (2013) attributed to such misrecognition the imbalance of race and class in a population of identified talented students in a public arts magnet school that admitted more than twice as many White students in proportion to non-White students as other schools in its district. They decried that, even as "de facto segregation" (p. 125) persists in such programs, "advocates for specialized arts education eschew social and cultural explanations, underscoring that individual talent is the key criterion by which students are selected" (p. 126). This social construct of talent serves, they argued, to "both exclude particular groups as well as justify the very act of exclusion" (p. 125).

Kraehe (2017) elaborated on the problem that "the same inputs do not necessarily lead to proportionate learning outcomes" (p. 272), a problem of *effect*, her fourth principle of equity. She advised that "equity-conscious art educators should also be attentive to statistical disproportionalities in learning trajectories and assessment outcomes" (p. 273). Gaztambide-Fernandez, et al. (2013) examined the binary effect of inclusion and exclusion in a specialized art education program. They also examined effects of inequity on narratives of participants in the program. But awareness of this evidence of disparities of effect also arouses concern for equitable art assessment across diverse demographics. Zimmerman (2003) proposed a multicultural approach to assessment of art students' achievements, promoting awareness of the value of culturally relevant standards for artistic excellence. Pariser (1997) considered social and cultural contexts of artmaking essential to a postmodern approach to identification of artistically gifted children. Although a pluralistic view of art worlds within American society has not been summarily well received by 21st century art educators (Dorn, 2003), such a view

does lend itself to research on the issues of equity in opportunity in art education and of

bias in talent recognition in the field. I focus this study on statistical disproportionalities

in art assessment in order to inform more equitable art assessment leading to more

equitable art talent recognition.

Examining Patterns of Talent Recognition

      If dominant-cultural capital may be misinterpreted as art talent by gatekeepers of

dominant art worlds, then previous educational opportunity associated with

socioeconomics of school enrollment may impact talent recognition. Opportunity for

acquiring necessary cultural capital includes access to specialized educational resources

and programs and contributes to recognition. I selected NMSAA as the context for

quantitative study of excellence in art in order to test the assumed link between

opportunity related to SES and recognition, reviewing relevant literature to determine the

validity of NMSAA as a context for this investigation.

      Anderson (1969) first explored the topic of talent recognition in SAA in a

quantitative, nonexperimental study, testing the hypothesis that high school students'

aesthetic sensitivity would correlate positively with measures of previous experiences in

the arts and with levels of recognition in the 1968 Regional Scholastic Art Awards

(RSAA). She sampled data from over 200 subjects to whom she administered the Child

Test of Esthetic Sensitivity (CTES) (Child, 1964). Anderson described the test as

involving a participant in viewing 90 pairs of projected slides of "paintings, architecture,

sculpture, furniture, and other *objects d'art*" (p. 6), each pair similar in subject but

differing in quality as determined by those Anderson deemed expert. The test measured

"the degree to which [the participant's] choices on each slide pair agreed with expert

opinion" (p. 6). Her findings suggested that the greatest positive correlation between educational experiences and CTES scores were the experience of making art in traditional art classes in junior and senior high school, visiting museums, and having submitted artwork to RSAA the previous year. She specified the nature of traditional art classes as focused on students producing art rather than learning art history or learning to appreciate art, and she noted in her summary the likely value of a studio-centered pedagogical emphasis for developing aesthetic sensitivity. With respect to that conclusion, she may have misinterpreted the correlational results as a causal relationship, recommending these significant educational experiences as most likely to produce greater aesthetic sensitivity in learners. She also speculated about the likely positive correlation of socioeconomic status and aesthetic sensitivity among her subjects, reasoning that "some home environmental influence" (p. 12) might also affect CTES scores, a question she brought up again when discussing the correlation of CTES scores and socioeconomic status of subjects in a later transcultural study (Anderson, 1976).

In her article on recognition in SAA, Anderson (1969) did not discuss the validity of the measurement instrument used in the study. She did not situate in a cultural context the subjects or the experts to whose aesthetic judgments she compared the test subjects' judgments. Neither did she describe their demographic characteristics. Test author, Child (1964), assessed the shortcomings of previous tests of art aptitude and aesthetic judgment devised in the mid-20th century, i.e., the assumption of "absolute validity" (p. 50) of expert opinion and the assumption of universality of Western, metropolitan popular consensus aesthetics. Child also noted a "decreasing ethnocentrism" (p. 51) among scholars in the social sciences at mid-century. He advised that future studies of aesthetic

response should aim to free themselves of "culture-bound context" (p. 51) and of instruments "originally devised in a more culturally naïve setting" (p. 52) by looking for transcultural patterns. He expected such studies would reveal that non-expert subjects' aesthetic judgments largely agree with experts within their own society or culture. Child later explored similarities between aesthetic judgments of experts across cultures, which Anderson (1976) noted, resulted in "support for the existence of a universal esthetic – one which transcends cultural context" (p. 33). Anderson (1979) revisited the topic of validity of the CTES measures ten years later in a theoretical article articulating standards for cross-cultural art education research. In that article she expressed her reservations about the use of the CTES across cultures due to the fact that it presented to international subjects a selection of objects not specific to their cultures, conceding that "the nature of making esthetic judgments is extremely complex" (p. 24).

My study of SES and recognition of talent involves aesthetic judgment in the art world context of NMSAA. The hypothesis that a young artist's SES may predict likelihood of talent recognition in this context builds upon Anderson's observations of the phenomenon, and is rooted in Becker's (2008) sociological theory of multiple art worlds within societies and founded also on Bourdieu's (2010) theory of aesthetic judgment as a function of social class and cultural capital. Whereas Child's (1962, 1964) and Anderson's (1969, 1976, 1979) writings reveal an assumption, common in pre-1980's social sciences (Kisin & Myers, 2019), that each major cultural or linguistic group or nation would share within itself a consensus about aesthetic judgment, Becker's contribution recognizes myriad diverse communities within societies, each with its own aesthetic and sub-cultural norms. Becker's framework provides this study with an

approach to flexibly contextualize aesthetic judgment and recognition of talent within the specific art world of NMSAA.

Scholastic Art Awards' Prominence in Art Education

In a recent ethnographic study, Antonelli (2004) documented the impact that being part of the SAA art world had on the teaching practices and *lifeworlds* of three secondary art teachers in Indiana. She found that none of her subjects deemed appropriate the teaching of academic disciplines of DBAE, and that they focused instead on skills they believed students would need as part of future "pre-professional preparation" (p. 139) as college art students. Neither did she find educational standards outside of this narrow focus evident in the teachers' teaching. In her study, furthermore, art teachers seemed "not aware of current research, policy discussions, and current thinking about best practices in art education" (p. 144). She reported that the prestige of the SAA overshadowed that of other student art contests for these teachers, and they strived in their curriculum to provide students with the artistic proficiency demanded of the contest, aiming for the standards of excellence they understood to be set by SAA. Furthermore, the teachers depended on success in the contest to validate their art programs, bolstering their reputation in the eyes of the public, other art teachers, and their administrators. This exceptionally high regard overall, Antonelli reasoned, resulted in greater autonomy for the teachers in steering their programs. Each teacher also reported that success by their students in the contest "was one way of gauging their effectiveness as teachers" (p. 141).

Antonelli's (2004) observations of art teachers who participated in SAA also documented instructional practices influenced by the contest. By announcing and publicizing information about the contest and its results, by selecting student work for the

contest, and by directly instructing students and taking time both in class and outside of class in the preparation of art work for the contest, the teachers maintained a connection between the classroom art world and the expansive art world of the SAA. Antonelli noted, too, that the connection to a prestigious world of art beyond the art classroom may have supported decisions by administrators to be less involved in the art classroom and may have reduced the teachers' own sense of need for a connection to other art educators in professional organizations.

In discussion of policy implications, Antonelli (2004) described a secondary art education culture of contests and competitions that overshadowed the influence of educational standards, educational reform efforts, child-centered educational philosophies, art education research, and art education professional networks. She reasoned that the factors influencing this cultural inertia included the personal gratification teachers felt when their students' work was recognized in the contest, the motivation teachers sensed among their students by the standards for excellence set by the contest, and the favorable view by community members and administrators resulting in greater autonomy, monetary resources, and job security for the participating teachers.

Scholastic Art Awards as an Art World

Antonelli's (2004) analysis focused on the SAA's impact on teachers as participants. Other art world participants include seventh through 12th grade students given the label "teen artists" (Alliance for Young Artists & Writers, Inc., 2019a, p. 1), jurors, organizers, and supporters. At the center of the SAA art world is a New York-based national non-profit, charitable corporation, the Alliance for Young Artists & Writers, Inc. Less visible participants in the art world at the national level include the

organization's contracted fundraisers, grant-makers, financial supporters both individual and corporate, as well as volunteer board members, employees, and vendors of services and supplies (Alliance for Young Artists & Writers, 2019b). Affiliated with the national organization are regional and state volunteer groups, which include NMSAA, a project of the New Mexico Art Education Association (NMAEA), a charitable organization which is financially supported by members and government and private funders (New Mexico Art Education Association, n.d.), and of which I was a an active member at the time of the study. Two members of the NMAEA Advisory Council served as co-chairs of the NMSAA, volunteering to direct and supervise the annual contest and maintain a close working relationship with the national organization. The cochairs communicated with national personnel both in person and electronically. They used the national organization's online web application (Alliance for Young Artists & Writers, Inc., n.d.-c) to manage digital student artwork submissions and to conduct the jurying of awards. They publicized and marketed the annual competition to art educators throughout New Mexico and El Paso, TX, and they organized the sequence of events that include late-December gathering of volunteer jurors at an Albuquerque high school fine arts building, a February opening of an exhibition of award-winning artwork at a downtown Albuquerque youth center, and a spring awards ceremony. Jurors included artists and art educators, mostly professionals personally invited by the organizers and selected for their level of experience, representing public and private middle and high schools, a university, and a community-based art education program (Nikki Turman, personal communication December 21, 2019).

Method

Have NMSAA judges recognized art talent in entries from high- and low-SES schools equally? In order to answer this question, I looked at de-identified, records-based data from the 2020 NMSAA contest database (Nikki Turman, personal communication, Jan. 21, 2020, Appendix B), which the University of New Mexico Institutional Review Board affirmed does not constitute human subject research. As a dependent variable I considered the level of award given each entry into the contest ($n = 1,016$). I explored several analyses of the relationship between level of award and two independent variables for each entry into the contest: (a) The school's Federal Title I aid and (b) the inverse of the school population's ratio eligible for US Department of Agriculture (USDA) National School Lunch Program (NSLP) Free or Reduced Lunch (FRL). I use the inverse ratio to describe the school's population ineligible for NSLP, which correlates positively with school and student SES.

Records of level of award produced ordinal categorical data with a large proportion of entries receiving no level of recognition and progressively fewer entries receiving higher levels of recognition. The bubble plot in Figure 1 illustrates this distribution. Without consideration of school SES, the proportion of awards would follow closely the recommendations of the Alliance for Young Artists & Writers, Inc., which prescribed proportions of each award to judges who *blind judged* the entries, i.e., without knowledge of the artists' demographics. The organization prescribed the following proportions of awards: "15-20% honorable mention, 10-15% Silver, 7-10% Gold" (Nikki Turman, personal communication, April 30, 2019, Appendix A). The average expected proportion of each award, therefore, would be: No award, (level 0), 61.5%; Honorable

mention (level 1) 17.5%; Silver key award (level 2) 12.5%; Gold key award (level 3) 8.5%. For American Visions nominee level of recognition (level 4), the organization expected jurors in the regional contest to select exactly five of the gold key award winners, no matter the number of entries (Nikki Turman, personal communication, February 16, 2020). The average prescribed proportions of awards are useful for comparison with the observed proportions of awards given to each SES subgroup and for the full sample, as illustrated in Figure 2.

In the analysis of frequency of award and school Title I support, both variables are categorical rather than continuous, i.e., they are simply classification labels with no measures of distance between data points. As such, these data are suited to a chi-square test of independence to determine if the number of entries receiving awards for each SES group differs significantly from that of the other group. Using this method of statistical analysis, the significance of the differences between incidence rates and the resulting effect size point to any non-random relationship between the independent and the dependent variable. For the analysis of school population ineligible for NSLP and level of award, however, the independent variable is continuous, ranging from 0 to 1, while the dependent variable of award or no award is dichotomous, coded as 1 and 0 respectively. These data are conducive to a logistic regression analysis to produce a predictive model. The predictive model resulting from this analysis would suggest patterns of change in the probability of award across the continuum of SES. I used R statistical analysis software (R Core Team, 2020) to conduct the chi-square tests of independence and the logistic regression analysis and to generate reports and plots. For the detailed output table of probabilities in Table 3, I used an online logistic regression calculator (Pezzullo, 2015).

Sample

  Description. The dataset includes all of the 1,016 artwork entries from 394 individual students ages 13 and older in Grades seven through 12 in 38 public schools, seven public charter schools, five private schools, and one or more home schools. Entries also came from El Paso, Texas secondary schools. The sample of data analyzed is not representative of the population of students in Grades seven through 12 in New Mexico. Table 1 shows the counts of schools and entries by school type. The proportion of non-charter and charter schools in the sample of schools represented by entries in NMSAA was 84% ($n = 38$) non-charter and 16% ($n = 7$) charter. This differs, but not significantly, $\chi_2(1) = 1.0704$, $p = .300847$, from a sample of all NM public schools, which would include 89% non-charter and 11% charter schools, according to the 2017-18 school year Common Core of Data (CCD) (NCES, n.d.-a). Cross referencing of NCES CCD data showed that the schools represented by entries included 18% (n = 8) public non-charter schools that received no Title I federal aid, and 82% public charter schools ($n = 7$) and public non-charter schools ($n = 30$) receiving Title I aid. This representation differs, but not significantly, $\chi_2(1) = 3.409$, $p = .06484$, from a proportional sample of all NM public schools statewide, which would include 88% of schools receiving federal aid, 12% receiving no federal aid or no indication (NCES, n.d.-a). According to the CCD, the five private schools and the home schools represented by entries received no federal Title I aid.

  The CCD also reported 73% of New Mexico public school students eligible in the 2017-18 school year for NSLP subsidies, 51% of all public schools fully subsidized for free lunch, and 0.5% of public schools with no students eligible for NSLP. In the 2020

NMSAA, however, only 34% of entries ($n = 343$) from 70 individuals came from public schools fully eligible for NLSP. According to the NCES (2017), students eligible for free lunch must come from households at or below 130% of the federal poverty level, about $34,000 for a family of four, while those whose family income is up to 185% of poverty level, about $48,000 for a four-person household, are eligible for reduced-price lunch. The U.S. Census Bureau (2018) reported over 111,000 NM students enrolled in school in Grades nine through 12, about 25% of whom lived in households with incomes below the poverty level. Since levels of eligibility for NSLP and Title I federal aid are directly tied to these *absolute* individual poverty measures, this variable serves as an optimal measure of individual socioeconomic status (Daly, Duncan, McDonough, & Williams, 2002) and conforms to best practices in psychological research (Diemer, Mistry, Wadsworth, López, & Reimers, 2013).

A larger proportion of NMSAA entries came from children in private and home schools than would be found in a random sample of seventh through 12th graders in New Mexico. Of all NMSAA 2020 entries, 21% ($n = 196$) came from 111 individuals from the five private schools or from four individuals from the home schools with no eligibility for NSLP. Participants from private schools and home schools made up 29% of the participants in NMSA 2020. The U.S. Department of Education (n.d.-a) *Private School Universe Survey* reports an incomplete count of 3,484 New Mexico students enrolled in private schools in Grades nine through 12 in the 2017-18 school year, approximately 3% of the 111,000 statewide population enrolled in high schools (U.S. Census Bureau, 2018). It stands to reason that the actual count would be greater than the incomplete count and a reasonable estimate may be that 5% of NM seventh through 12th graders attend private

schools. This estimate greatly contrasts the 29% participants from private schools in the NMSAA sample of entries. This uneven sampling suggests a need to further explore factors influencing a student's participation in NMSAA.

Procedures

The process by which students enter the contest. I presume that the process young artists follow when submitting an entry for access to the contest affected the sample. The submission process demands persistence and skill with digital technology or support from others with skill with technology. Parts of the process were explained in available online streaming videos (Alliance for Young Artists & Writers, Inc., 2019c) and detailed answers to frequently asked questions about the process were available on the website (Alliance for Young Artists & Writers, Inc., n.d.-b). I explored the online platform from the perspective of a student in order to describe below the process a student must have followed and to aid interpretation of the sample.

In order to submit artwork to NMSAA, each student created an individual account and uploaded one or more digital photos of each piece to an Internet database administered by the Alliance for Young Artists & Writers, Inc. In creating a profile on the database, each student was prompted to provide first and last name, mailing address, phone number, gender, race, ethnicity, grade, date of birth, number in household, military connection, and to select from a database of known schools or other educational programs or homeschool. Students must have been 13 years of age or older to proceed.

For each contest entry a student was prompted to enter a title and select a category for the piece. Next the student selected up to three educators from a list the database had associated with their selected school or the student added information for a new educator,

indicating that the listed educator(s) had assisted with the work. The student then checked a box to show understanding of the SAA plagiarism and copyright policy and to acknowledge the expectation that the student executed the work on their own. The blog and other pages of the SAA website and videos explained the plagiarism policy and provided examples (Alliance for Young Artists & Writers, Inc., 2019c). Next the student was prompted to provide information about the work, identifying sources by checking boxes and adding description for the selection of *other* as needed, documenting the dimensions of the work, the materials used, and keywords to tag the digital record, and uploading the digital image file from a computer. In order to upload an image the student either dragged and dropped a file onto the browser window or selected a file from a directory on a computer. Finally, mail-in entry forms were printed and signed by the student, a teacher, and guardian, and either fees were paid or a *Fee Waiver Form* was mailed in by the deadline. The fees may have been paid online electronically through PayPal or by check, $7 per entry or $25 per portfolio entry. The fee waiver form required only a parent or guardian singature "certifying in good faith that the submission fee presents a barrier to participation" (Alliance for Young Artists & Writers, Inc., n.d.-a, para. 3). All signed forms were sent by mail to the regional affiliate address.

The influence of adults on the process. Other than authorizing the payment or fee waiver forms, an experienced adult may also have helped with photographing the art work to improve the the quality of digital photos submitted, which may have impacted the judging of an entry. The younger, less technologically skilled, or less motivated students may have needed more help from an adult than others. Educators associated with an entry had accounts on the online platform where they had the capability to monitor

student entries and assist in submitting demographic data and uploading images. The influence of the educator in selecting a student's entry into NMSAA may have been substantial, especially given the extrinsic motivation for participation a teacher may feel, as documented by Antonelli's (2004) ethnographic study of SAA's impact on art education. The judgment and effort each educator applied to sponsoring a student's participation may have had an effect on the sample of all entries. The mix of intrinsic and extrinsic motivation for each of the task components of the process also may have affected a student's selection and refinement of artwork. Components of the process include developing artistic ideas, refining them with awareness of evaluative criteria, selecting the finished pieces best suited to the criteria, digitally photographing them, and submitting them as a entries in the contest. Amabile's componential model of creativity (Amabile & Pratt, 2016) theorizes that extrinsic motivation applied by a student's teacher selectively to certain components of the process can have a synergistic positive effect on the resulting creativity of the product, but extrinsic motivation applied at inopportune moments in the process may have a detrimental effect.

Summary of sampling procedure relevance. For the purpose of this study, NMSAA contest data serve as a stand-in for achievement data when investigating excellence gaps in art, providing information about high levels of performance not available from the NAEP Visual Arts reports (NCES, n.d.-a; n.d.-c), yet factors influencing the sample reveal that it is not random and the data it provides leave out information about the full distribution of levels of achievement. The data include no information about levels of achievement below honorable mention. If the honorable mention award in the art contest (minimum 62_{nd} percentile in this sample) may be

considered analogous to a level of academic proficiency on an achiement test, the

NMSAA data lack levels of achievement below proficient.

Measurement of level of award. The level-of-award variable is an ordinal

variable ranging across values of 0 (*no award*), 1 (*honorable mention*), 2 (*silver key*), 3

(*gold key*), and 4 (*gold key award with nomination for national award*). I derived the

level-of-award variable from the judgments that jurors made holistically based on shared

knowledge of three criteria for NMSAA jurying. The Alliance for Young Artists &

Writers, Inc. describe these criteria as "the Awards' core values: originality, technical

skill, and the emergence of personal voice or vision." (n.d.-e, para. 6) and define them in

a document provided to the jurors (Nikki Turman, personal communication, April 30,

2019, Appendix A). The criteria are included among the three principles communicated to

jurors which also include "Freedom of Expression . . . There are no restrictions or

mandates on subject matter [and] Blind Judging . . . Judges do not have knowledge of the

students' identity, and awards are determined on a merit basis with only the art object

under review" (Alliance for Young Artists & Writers, Inc., 2017, slide 13).

Jurying process. A description of the jurying process sheds light on the

measurement methods contributing to this study. In small groups that include a

moderator, the jurors engaged in holistic assessment of each piece, which was displayed

by SAA's custom software as a digital photo on a large screen in a darkened room. The

jurors voted on whether or not an entry would or would not qualify for a certain level of

award. A vote included or excluded a work from a level of award, and the moderator

tracked votes and entered votes in the software, quickly reducing a pool of hundreds of

entries in a category to roughly one-third proportion of award recipients, with repeat

rounds to further select for each higher level of award (Alliance for Young Artists & Writers, Inc., 2017).

Research design. While the de-identified records do provide award information about roughly the top third of entries, no assessment data exists for roughly two-thirds of the records other than their having received no award at all. Entries with no award result in no recognition of talent to the participants who contributed them, and communicate no feedback about how close or far from an award an entry seemed to the jurors. As stated earlier, the NMSAA contest data serve in this study as a stand-in for high-level achievement data that is not available from the NAEP Visual Arts reports (NCES, n.d.-a, n.d.-c). While the variable of award indicates progressive levels of excellence in artistic product and performance, it does not help to determine more precise measures expected of achievement data, i.e., a continuum of measures indicating distance between the levels or a ranking of entries.

I tested that recognition would be awarded unequally to students of varying SES by examining the significance of differences in recognition associated with two independent SES variables divided into various subgroups. Triangulating the significance across different groupings contributed to interpretation of validity of the results. I cross referenced the two values of independent variables of contest entries' school SES from publicly available data (NCES, 2017) describing each school's level of federal aid.

The first independent SES variable in the research design indicates the level of Title I federal aid of the school of an entry. It produced two categorical groups, those from schools with any Title I aid ($n = 711$) and those from schools with no Title I aid ($n = 305$). Schools qualify for federal Title I aid by various criteria based on measures of

poverty in the school population. Using the criteria of qualification for Title I by

percentage of school population eligible for NSLP, I regrouped the sample for a second

test of independence.

A second independent SES variable in the research design is continuous rather than

categorical, that of the ratio of students in the school who are ineligible for NSLP, ranging from

minimum ineligibility ratio of 0 to a maximum ineligibility ratio of 1, with a mean of 0.434 and a

standard deviation of 0.381. I present a description of the sample size, mean, and distribution of

this variable in Table 2, which shows that the data are nonnormally distributed. I examined the

distribution of awards to entries across the variable of school SES indicated by ratio of

population NSLP ineligible in a bubble plot (Figure 1) in which the size of a bubble represents

the number of entries receiving a level of award from schools of a certain SES measure. A quick

glance at this plot shows that awards are unexpectedly evenly distributed to entries across school

SES, but the somewhat greater visual weight on the high-SES side suggests unequal distribution

to be investigated statistically.

Results

By examining two independent SES variables with different groupings and one dependent categorical variable of level of award, I tested the hypotheses that (a) recognition would be awarded unequally to students of varying SES and that (b) the likelihood of recognition of an entry would increase with school SES. Chi-square analyses confirmed that the contest did not award recognition equally to entries from low-SES schools receiving Title I aid ($n = 711$) and to entries from high-SES schools receiving no Title I aid ($n = 305$), $\chi_2 (1, N = 1016) = 44.4724, p < .001$. Entries from Title I schools were less likely to receive any award than entries from schools without Title I aid. The effect size, $\varphi = .209$, however, is small. A chi-square analysis is a statistical method used to determine independence of the relationship of two variables. Effect size is an indicator of the impact the independent variable has on the dependent variable. For triangulation of results in a chi-square test of independence, I applied other grouping criteria to the continuous variable of school SES, the ratio of the school's population ineligible for NSLP. This also revealed a significant difference between recognition of entries from low-SES schools qualifying for schoolwide Title I aid due to meeting the criterion of 90% or more eligibility for NSLP, (< 10% ineligible) and entries from high-SES schools not qualifying for Title I support due to 40% or less eligibility for NSLP (> 60% ineligible), $\chi_2 (1, n = 694) = 29.8427, p < .00001$. The effect size, $\varphi = .207$, however, is small.

A more detailed look at level of awards specifies differences in recognition underlying these effects. Comparing the levels of recognition for entries from high-SES schools with no Title I aid and the levels of recognition from low-SES schools with Title I

aid, as illustrated in the bar charts in Figure 2, reveals, interestingly, no significant

difference between frequency of gold key awards, χ_2 (1, N = 1016) = .0507, p < .821781,

or honorable mention awards, χ_2 (1, N = 1016) = 2.1575, p < .141876. Gold key awards

were given to 9.7% (n = 69) of Title I entries and 10.2% (n = 31) of entries from schools

without Title I aid. Honorable mention awards were given to 15.9% (n = 113) of entries

from Title I schools and 19.7% (n = 60) of entries from schools without Title I aid. The

only significant disproportionate recognition is evident in the difference in silver key

awards, χ_2 (1, N = 1016) = 15.4602, p < .000084. From Title I schools only 7.2% (n = 51)

of entries received silver key awards while more than double the proportion, 15.2% (n =

46), of entries from schools without Title I aid received silver key awards. An entry from

a low-SES school was less likely to receive a silver key award than an entry from a high-

SES school.

In order to test the second hypothesis that likelihood of recognition can be

predicted to increase with school SES, I fitted a logistic regression analysis (Peng, Lee, &

Ingersoll, 2002) to the data summarized in Table 4. These data include the continuous

predictive variable of school NSLP ineligibility ratio ranging from 0 to 1 and the

dichotomous dependent variable of award (1) or no award (0). I used R software (R Core

Team, 2020) to generate a predictive model, i.e., a formula that calculates the predictive

likelihood of receiving an award given the school SES of an entry (R programming codes

are found in Table 5). The plot in Figure 3, also generated with R, is framed above and

below by two horizontal lines, each corresponding to a value of the dichotomous

dependent variable, an outcome of *award* or *no award*. The histograms above and below

represent the numbers of entries from schools of varying SES measures that either

received an award (above) or did not receive an award (below), with frequency of

occurrences in ten bins of .10 width increasing with the scale on the right side of the Y

axis towards the center of the figure. The sloped line plots the predicted probability of

award with a scale along the left side of the Y axis for entries from schools of all SES

measures. It shows an increase in probability of award from the lowest SES entries to the

highest SES entries. The resulting logistic regression model may be used to predict the

likelihood of an entry receiving an award:

$$\text{Predicted logit of (AWARD)} = (-1.0051) + (0.9885)*\text{SCHOOLSES}. \tag{1}$$

According to the model, the predicted log of the odds, or *logit*, of an entry

receiving an award is significantly ($p < .01$) and positively related to school SES. Log

odds are a transformation of probability that are convenient for statistical modeling but

can be transformed back to more commonly understood odds ratio or probability.

According to this model, entries coming from low-SES schools with no portion of the

population ineligible for NSLP have a predicted likelihood of receiving an award that is

expressed as a logit of -1.0051, or very close to three-to-one odds against, or about 25%

probability. Entries coming from high-SES schools with the whole population ineligible

for NSLP have a likelihood of receiving an award expressed as a logit of -.0166, or very

close to one-to-one odds, or about 50% probability. To summarize, the higher the ratio of

school population ineligible for NSLP, the more likely the model predicts an entry will

receive an award. In Table 3 the set of school SES predictors makes up the first column.

Table 3 shows that, of these 1016 entries, 646 (63.6%) received no award and 370

(36.4%) received awards. These proportions suggest that without school SES considered,

any entry in the contest would be predicted to have a 36.4% probability of receiving an

award, very close to two-to-one odds against. Table 3 also shows the more precise

predicted probability of receiving an award at each school SES data point and the

probabilities at 95% confidence limits, which I generated using an online logistic

regression calculator (Pezzullo, 2015). The probabilities of receiving an award range

from a minimum of .2679 for the lowest school SES entries, to a maximum of .4958 for

the highest school SES entries.

Discussion

The statistical analyses of the 2020 NMSAA data revealed that entries from low-SES schools did not achieve recognition proportionately to those from high-SES schools and that the likelihood of achieving awards for entries from low-SES schools was less than for entries from high-SES schools. The bulk of the difference in recognition seems to be at the level of silver award, while the differences in other levels of recognition examined separately are not statistically significant. While school SES indicators are shown to have a significant predictive effect on level of award, it is remarkable how evenly distributed across demographics are the highest levels of award. With this in mind, the results of this study support the hypotheses, but do not make a strong case for extremely inequitable recognition of artistic talent overall. For comparison, school SES effect size of $\approx .20$ on the outcome of the contest is smaller than in van Ewijk & Sleegers' (2010) meta-analysis of 30 studies of correlation between SES variables on academic achievement scores, which revealed an average, weighted effect size of .32. Discussing the limitations and strengths of the measures that produced the data and the limitations of the focus of the study as well as the possible explanations for the smaller-than-expected effect size of SES on recognition of talent leads to more questions to be addressed with future research on the topic.

Validity and Precision of Measurements

Measurements of school SES. The measurements of each school's SES, including ratio of population eligible for NSLP and of level of Title I aid category, came from the most recent available NCES CCD, which was two years old, and, though externally valid, possibly outdated and as such, possibly imprecise measurements of the

actual experience of participants from each school. None of the schools represented by entries in the 2020 contest, however, lacked SES information from the 2017-18 school year, and I presume that, since that time, few if any have undergone significant changes in population. Conducting independence tests with both NSLP and Title I variables producing similar results of independence and effect size suggests acceptable reliability in these measurements of school SES. While I argue that school SES is an adequate indicator of individual experience and opportunity, the lower-than-expected effect of school SES on likelihood of recognition in this study, especially on higher levels of recognition, point to a gap in understanding the experiences and opportunities that these award winners have had in and out of school and in understanding any connection between these experiences and the recognition of their talent in their contest entries.

Measurements of recognition. For measures of art talent recognition in this study, I relied on the NMSAA jurying process, which, in the 2020 contest, was one iteration of adjudication among 100 regional expressions of the national SAA jurying process collectively reviewing tens of thousands of works of art nationwide (Alliance for Young Artists & Writers, Inc., n.d.-d). The measurement method fits the theoretical framework of the socially constructed artist and culturally contextualized art talent, with jurors exercising and testing shared norms and values in the collaborative work they were doing as they evaluated artistic products for evidence of individual voice, creativity, and technical skill. Because the Alliance for Young Artists & Writers, Inc. has continually refined the SAA jurying process over decades for the express purpose of artistic talent recognition, and because the process is implemented nation-wide, I argue that it comprises a very large and influential art world in itself. Relying on this process supports

the external validity of the measure in a well-established system of art product assessment with a long history and a strong national reputation. Even so, future research might explore the extent of the validity of NMSAA recognition.

As a measure of talent recognition, the contest was a blunt instrument that did not perfectly substitute as an art assessment instrument. Though it serves the purposes of the Alliance for Young Artists & Writers, Inc., the precision of the available award-level data is limited. Nonetheless, the I effectively tested the first hypothesis with two-by-two contingency tables including frequencies in broad categories of high-and low-SES of schools, award and no award. Examining, furthermore, the relationship of SES with the ordinal variable of award levels ranging from 0 to 4 exposed more about specific disparities of talent recognition. Yet, more could be gleaned from award data allowing precise placement of entries along a continuum or ranking. More yet could be known from data that described levels of achievement below that of honorable mention. These two characteristics of measurement, missing in the NMSAA data, are available in the NAEP data. An ideal assessment of art learning would incorporate best characteristics of both, generating continuous achievement data that extends to the highest levels of art achievement.

I narrowed the focus of this study to how school SES may explain the level of recognition of art talent in NMSAA 2020, but other variables could be considered with the existing records, including the public, charter, or private school source of entries, the artist's individual gender identity, race, ethnicity, or grade in school. Future research using NMSAA records may explore other factors that may also help explain recognition of art talent in the contest.

Patterns of art talent recognition are shown in this study to be inequitable but less than expected across indicators of SES. While I presumed that jurors would exhibit aesthetic and cultural bias, based on the theory of misrecognition of individual characteristics of "talent, intelligence, culture, distinction, taste" (Bourdieu & Wacquant, 2013, p. 299) in art objects, I was surprised by the even distribution of especially the highest awards to entries from all levels of school SES. Consider the differences children of families in poverty and children of highly resourced families must have in opportunities to travel, to make the acquaintance of and speak with adult professionals in a variety of fields, to access books, art materials, and spaces in the home to make art and study, and to attend summer enrichment activities and participate in after-school programs. A teenager with her own bedroom and a motivation to spend time making art, for example, may have more uninterrupted studio time than a teenager with similar motivation who shares a room with younger siblings or sleeps on the living room couch. Is it possible that such differences in opportunity only minimally affect art students' capacity to embody cultural capital in their contest entries? These results present a challenge for interpretation and beg reflection on the sample's limitations and the constraints of the study.

Art Teacher Support, Gatekeeping, or Individual Motivation Affecting Sample

If talent development opportunities and talent recognition are linked, consider the explanation that 2020 NMSAA participants who are recognized equitably with gold key awards, for example, may not experience extreme inequity in other dimensions of Kraehe's (2017) framework. Despite being enrolled in low-SES schools, gold key winners may have sufficient opportunities as antecedents to their recognition, which include access to

talent development resources and support for access to the contest. A closer investigation of each of these as they relate to participation is warranted in future research that would focus more on characterizing the participants' experiences. With the given information, however, it is reasonable to assert that the demands of technological skill, persistence, and support that entering the contest places on participants likely have the effect of screening out participants who lack either resources, support, or motivation, eliminating from the sample some data that would reveal greater inequity if the sample were more representative of statewide school populations.

Antonelli's (2004) ethnographic study documents several Indiana art teachers' intense motivation to do well in the contest, which, if applicable in this case, would impact either the level of teacher support for winners or the intensity of teacher selectivity of entries, or both. The young artists' teachers' names appear in publication along with the teen artists' names in the annual catalog of top national award winners (Alliance for Young Artists & Writers, Inc., 2019a), a point in support of the conclusion that art teachers involved in the contest would have been highly motivated. Considering the reasonable explanation of influence of art educators on the contest, the unexpectedly small inequity of the results may attest to the equalizing effect that the support of a highly motivated art educator can have at even a poorly resourced school among students with limited outside opportunities. In other words, art teachers at low-SES schools who support participation in NMSAA may strive to make up for differences in opportunity. They may do this by creating a strong program for art talent development made up of opportunities for early access to advanced art learning more like college than high school, or more like high school than middle school. Their program may also foster, for example,

connections to art worlds beyond the school, such as National Art Honor Society, artists-in-residence, or museum, gallery, or studio visits.

Alternately, the results may signal the inequitable elimination from the sample of potential participants who lack the resources, skills, or experience needed to succeed in the contest, as art educators focus their support on those who least need it. In such a case, an art teacher at a low-SES school, functioning as a gatekeeper to recognition in the most negative sense, may selectively support only those who already seem to have what it takes to do well in NMSAA. This alternate explanation would depend on the presence at underresourced schools of significant numbers of either highly able or exceptionally well-resourced young artists, their high ability or anomalous access to opportunity outside of school indicating to the teacher they are a good bet for an award. A disadvantaged student with natural drawing ability coinciding with a rage to master (Winner & Drake, 2013), for example, may attract a teacher's support for accessing the contest. Also, a student enrolled in an underresourced rural school whose parent is an art educator, artist, curator, or gallery owner, for examples, may have exceptional outside-of-school experience in art worlds contributing to potential recognition. Yet, I consider these instances outliers, too exceptional to have a substantial impact on the results.

A third consideration is that the statistical results of this study would be impacted by significant numbers of highly motivated individual participants who enter the contest without the support of an art educator. They would do all of the work to enter the contest independently except for securing an authorizing signature of adults. Even if exceptional levels of independence and motivation may be considered unusual in a population of 13- to 18-year-olds, one might argue that the contest attracts these students to it. With no

direct way of communicating to teenagers, however, NMSAA publicity efforts rely on professional network of art educators for recruitment. This casts doubt on the claim that the results of this study may have been impacted by entries from extremely independent teenage artists. Of these three explanations for the fact that similar frequencies of the highest awards across SES subgroups occur, the most reasonable is that the typical art teacher who supports participation in the contest at low-SES schools also works hard to make up for low opportunity at those schools.

Does the Adjudication Process Contribute to Equity?

The effect of the adjudication process is a second unknown factor to consider in explaining this study's resulting low effect size of SES on recognition. It may be that credit for the nearly equitable recognition revealed in this study goes to the jurying process itself which produces evaluative decisions based on the socially constructed holistic judgement of local experts. Perhaps the NMSAA jurors have recognized diverse representations of talent in art, accommodating differences in expression of aesthetics and cultural capital from both high- and low-SES environments. If so, there may have been mechanisms in place for recruiting volunteer jurors capable of flexible judgment about student art. These mechanisms could be investigated further, and detailed observation and narrative could be added to an understanding of the process.

Soon after the decisions are made each year the NMAEA cochairs have displayed a public online gallery of digital images of the winning pieces of all categories (NMAEA, n.d.). I interpret the artwork displayed in the online gallery as demonstrating the stated principles of SAA, valuing freedom of expression and emergence of individual voice. They represented a wide variety of media categories, and within each category a wide

range of styles. Gold key winners exhibited online in 2020 included interactive, wearable ceramic art, photoreaslistic and abstract portrait and still life pieces in traditional painting media, metal jewelry, stained glass, an interactive porcelin teacup sculpture that functions as a musical instrument, digital color photography of cuts of meat at a counter, a bark-covered sculpture in the form a spoon, digitally illustrated political cartoon and comic art, and non-objective monotypes, for examples. Although the online gallery pages do not explicitly state a concern for equitable recognition of talent across demographic bounds or a value of diverse aesthetics and artistic approaches, the work on display seems to fit these values. The jurying process seems to have contributed to equitable recognition of artistic achievement based on the jurors' collaborative, expert judgment substantially similar to Amabile's conseunsual assessment technique (CAT) for evaluating creative products (Hennessey, Amabile, & Mueller, 2011).

Similarities between the SAA jurying process and the extensively researched CAT for evaluating creative products (Hennessey, Amabile, & Mueller, 2011) include: (1) Judges all had substantial and similar experience in the domain; (2) judges relied on subjective criteria producing evaluations, the validity of which is to be interpreted in a social context without claim to universality; (3) judges were not trained on the criteria but were free to interpret the criteria based on their own experience with the art form; (4) judges were not informed about the identity or specific demographics of the producers other than general age or broad level experience; and (5) judges made their evaluations relative to other items in the pool rather than on an absolute standard.

In contrast to the CAT, in which judges must make their decisions indpendently, each viewing the items in a different random order, often rating each piece by more than

one criterion, the jurors in SAA confered with one another about their assessments of

each piece and voted on whether or not to advance a piece, all viewing the pieces in the

same sequence. The SAA adjudication process may have greater external validity than

that of the CAT, as it emulates more closely the method of gallery owners and museum

curators, connecting with the norms of larger art worlds. The process may have resulted

in stimulating professional discussions among jurors, but also may have allowed

personality dynamics to influence the decisions, and it has not generated reliability

statistics. The CAT, however, eliminates social dynamics from the judgements and

produces quantitative data for calculating interrater reliability, which then enables a

researcher to contend internal validity in the context of appropriate judges with

satisfactory levels of agreement: "If appropriate judges independently agree that a given

product is highly creative, then it can and must be accepted as such" (Hennessey,

Amabile, & Mueller, 2011, p. 256).

The SAA adjudication process, guided by the principles of blind judging, freedom

of expression, and the three holistic evaluative criteria, may have been responsible for

greater-than-expected equity in recognition of artistic talent among participants. To the

extent the process were to be responsible for equitable recognition, designers of

standardized visual art assessments may use it as a model, modifying the evaluation

process only as needed to maintain its benefits and yet synthesize desirable characteristics

of the CAT.

Future studies may investigate in greater detail the question of who serves as

judges for SAA, NMSAA and other regional contests, how they are selected, what type

and level of experience they bring as judges, and how much agreement or disagreement

they have as raters. These factors may have considerable impact on the function of the

contest in recognizing talent equitably across diverse demographics.

Conclusion

I expected that charting paths that lead to recognition in art worlds through jurying artistic products would reveal inequity in distribution of resources, access, and support for excellence. The results, however, of this initial study of artistic talent recognition among both disadvantaged and well-resourced teenagers who entered the 2020 NMSAA contest, suggest only a slim gap. Expected attrition along a trajectory of artistic development would result in fewer and less diverse voices and perspectives contributing to the making of culture through visual art, to the detriment of society. While existing maps of routes to artistic accomplishment, plotted by scholars of art education, art history, sociology, and psychology, suggest that those called artists typically have advantages of culture, class, race, and gender, my results suggest less-than-expected inequity of recognition across socioeconomic groups. In the context of this study, students who entered the contest from middle and high schools with high rates of poverty were only minimally at risk of significant underrecognition of art talent. With this line of inquiry, I have taken one sounding at a specific point in the midst of uncharted seas, revealing a need for further study.

For analogous approaches in other domains, I consider findings of correlation between widening socioeconomic gaps and excellence gaps in academic achievement. Academic excellence gaps may be measured with scientifically tested instruments from test designers competing to produce acceptably valid and generalizable achievement data for the domains of reading, writing, mathematics, and science. As socioeconomic gaps widen in the United States, such instruments reveal, so do inequities in opportunity to access resources needed to achieve excellence academically (Plucker, Burroughs, &

Song, 2010). Remedies for academic achievement gaps differ greatly from interventions targeting excellence gaps. Plucker, Hardesty, and Burroughs (2013) have reported that steady progress in America's schools "on closing minimum competency gaps" (p. 4) has not correlated with reduction of widening academic excellence gaps. Moreover, educational interventions applied system-wide to benefit low-performing students have negatively impacted learning and growth of underresourced students whose skills are already proficient, but who could be performing at levels of excellence alongside their better-resourced peers (Plucker, Peters, & Schmalensee, 2017). Unfortunately, interventions needed by advanced students "come with a price tag" and are primarily found as "options outside of the public system— private schools, afterschool and weekend programs, summer experiences, and more recently Internet-based options" (Plucker, et al., 2017, p. 245).

Similarly, I argue that broad approaches to address minimum competency gaps evident in the NAEP Visual Arts reports also negatively impact aspiration for achievement of excellence in underresourced schools. In numerous case studies, adult artists have not credited early art education experiences geared for the general population as helpful, but have pointed instead to the value of advanced art learning experiences typically encountered outside of public, K-12 schools (Clark & Zimmerman, 2004; Csikszentmihalyi, Rathunde, & Whalen, 1997; Milbrath, 1995; Sloane & Sozniak, 1985; Zimmerman, 1992). In other words, art programs geared broadly for everyone are not known to help those on a potential path to recognition as artists. Public secondary school art teachers who participate in SAA, however, have been shown to exhibit aspiration for their students and commitment to the needs of advanced learners (Antonelli, 2004). As

suggested earlier, their aspirational approach to art education in underresourced schools may begin to explain the minimal inequity in recognition found in the results of the present study.

The data produced by NAEP Visual Art tests did suggest achievement gaps between students eligible and not eligible for NSLP (Keiper, et al., 2009; NCES, n.d.-a, n.d.-c) as did a later replication study (Heid, 2016), but high levels of artistic performance were not evident in these data. Reports of NAEP data have been subject to scrutiny in the field of art education, criticized primarily for the blame the reports seems to cast on art education programs for failing to produce desired outcomes. Diket and Brewer (2011) urged art teachers to take a cooperative stance, to "exhibit sincere interest in exploring the NAEPs as sources of information about visual art within and outside of America's schools" in synergy with other disciplines and with museums and arts organizations, rather than "protecting their turf" (p. 46) in disagreements about the vaildity of the tests. The NAEP results are, as Diket and Brewer stated, "an important but incomplete 'report card' on the transmission of artistic culture," (p. 46) and, as Heid (2016) described them, an "important, albeit incomplete, measurement of artful practice" (p. 85). Burton (2016) also interpreted results of the NAEP as supportive of the impact of specific pedagogical practices on art achievement approaching the level of *sufficient*, but with this low ceiling, no such analysis is possible for aspirational art education programming. Diket, Xu, and Brewer (2014) contended that, "while NAEP does not do nearly enough to represent the sophistication and potentials of art as it can act in a culture, there has been an aspiration to have art study do so" (p. 401). This conscipicuous deficiency, failing to measure or report the highest levels of sophistication and potential of art students' work, signals the

public system's lack of aspiration, Kraehe's (2017) sixth principle of equity for art education. Many characteristics of the SAA, however, answer the call for a more aspirational, complete, and "holistic approach . . . in understanding a student's command of art knowledge and skill" (Heid, 2016, p. 85). The Alliance for Young Artists & Writers, Inc. (n.d.-e) seems rightly, assuming a sociological construct of talent, to promote SAA as effective in "identifying the early promise of our nation's most accomplished and prolific creative leaders" (para. 5).

The conundrum for art education advocates is what to do to ensure both equity and excellence, two synergistic principles of education, according to Zimmerman (1997). Who among our students may be active as artists as adults, and how might our level of awareness of them in school impact our approaches to teaching them? What can art educators do to remove obstacles, bridge gaps, or open doors to recognition in art? To promote excellence in both low- and high-SES school art programs, in which, as Zimmerman noted, "each individual's specific educational needs were met and the individual could progress as far as his or her abilities allowed" (p. 21), would require early access to specialized, advanced art education opportunities. "Research should be conducted to evaluate mixed-ability grouping, ability grouping, and acceleration for students gifted and talented in the visual arts," (pp. 25-26), Zimmerman recommended. She added that "evaluation studies need to be conducted, and results compared and contrasted, to see which specific art content and program options are most appropriate in various contexts and with diverse populations of artistically talented students" (p. 26).

Grounded in a conceptualization of the socially constructed artist, Gaztambide-Fernandez (2008) supplied a recommendation for curriculum for future artists echoing

McFee's (1998) earlier vision of multi-cultural art education. Going beyond her call for the inclusion of multi-cultural art objects in the curriculum, however, he explored examples of various roles theorized by society for artists, and to art educators, he implored:

> Encourage [young artists] to confront the range of social roles they may be expected to fulfill . . . Arts educators cannot afford to assume any one particular view of the artist as the basis of their work, because it would be simplistic to assume that all other views do not somehow influence the curriculum of artistic education. (p. 251)

The less-than-expected inequitable recognition revealed in this study suggests that in this context some unkown factor was working more for equity than presumed. It is possible that art educators involved in producing the data of this study, both art teachers and adjudicators of the contest, were open to multiple views of what an artist is and how a young artist may be represented and recognized in artwork. They may have recognized talent across multiple art worlds and remained open to differing aesthetics and norms. I posit that art teachers, serving as gatekeepers to fields of art or art worlds while serving disadvantaged teenagers and participating in NMSAA, worked to make up for disadvantages, and that the NMSAA adjudication system reduced expected inequity by making room for a discursive, flexible definition of talent as represented in diverse expressions. While future studies are needed in order to begin to map this territory of inquiry, the results of this study do spark hope for continued work toward valid and equitable assessment of high levels of achievement in art. For the purpose of transforming art education toward equitable recognition of talent with better monitoring

of the unequal effects of inequitable education inputs, good quantitative assessment instruments will play an indispensible role. They will be key tools of equity, informing aspirational art education programming that supports art talent development across diverse demographics. A society that finds ways to maintain its purported values of equity and fairness engages all citizens in the making of culture rather than excluding those with disadvantages. Art worlds that adapt and include new members grow and thrive, while dominant art worlds that exclude diverse voices find themselves in competition for limited publicity and resources, at risk of diminishing in importance (Fine, 2004). Aspirational transformation of art education toward greater equity will contribute to equitable building of culture and sustaining of the role of art in society.

Follow-up qualitative studies designed to start where this study left off could inquire into the experiences of NMSAA teen participants and of participating educators. An approach to narrative inquiry with participants could explore the following questions: What motivates award winners to participate in the contest? What resources are drawn upon by participants recognized with awards, and to what extent do those who don't achieve recognition have similar or different resources? What support do they depend on for accessing the contest? To what extent are the resources and support linked to their school or to catalysts (Feldman, 1985; Gagne, 2010) outside of school? Future iterations of this quantitative study may also be designed to correct for sampling issues, to examine multiple factors as predictors of recognition, or to control for the factor of educator influence. A statistical analysis of SES and awards based on a random sample of participants from New Mexico secondary schools supported by art educators trained to maintain a controlled level of support may provide results unaffected by art educator

motivation. Or, without manipulating the sample, a survey of the participants' art teachers

to quantify and then control for level of teacher support may help to remove the unknown

impact of the art educator as a factor in the results.

Appendix A

Scholastic Art Awards Criteria

Originality

The nature of creative reinvention makes originality hard to define. Works of high originality challenge conventions, blur the boundaries between genres, and shift jurors' notions of how a particular concept or emotion can be expressed. We encourage our jurors to look for works of art and writing that surprise them. Many of the works submitted to the Awards begin as classroom assignments. A functional definition of originality is work that goes beyond the classroom assignment and demands its own reason to exist in the world.

Technical Skill

Each year, we bring thousands of professional artists, writers, educators, and scholars together, with functional expertise in specific genres, to evaluate the skills demonstrated by students who submit works to the Awards. Technical skill is judged on how it is used to advance an original perspective or a personal vision or voice. Rather than being evaluated for specific skill proficiencies, students will be evaluated on how they used their skills to create something unique, powerful, and innovative.

Personal Vision or Voice

We all know what the personal visions and voices of Awards alumni Andy Warhol, Truman Capote, Richard Avedon, and Sylvia Plath looked and sounded like when they became professional artists and writers. But what did their works look and sound like when they were teenagers? This is precisely the question we ask our jurors to consider during the judging process. It's no coincidence that the Awards have identified some of the most important creative minds of the past nine decades. We are in the business of identifying the self-possessed, unique voices and visions of teenage artists and writers.

15%-20% Honorable Mention

10%-15% Silver Key

7%-10% Gold Key

Appendix B

Table B1

First 100 Records of De-identified NMSAA 2020 Dataset

Ratio School NSLP Ineligible	Award Code	Any Award	Any Title I	Title I Support Code	Student ID + Key	Count of Entries from Student	Gender	Ethnicity	Percent Reduced Lunch	Percent Free Lunch	Public/Charter/Private/Home	School Zip
1.00	4	1	0	0	415605	1	F	B	0%	0%	HS	87185
0.77	4	1	1	2	430854	9	F	N	5%	17%	PC	87501
0.57	4	1	1	2	90700	8	F	A	4%	39%	PU	88011
0.17	4	1	1	2	693694	1	F	H	0%	83%	PU	79915
0.00	4	1	1	2	496279	17	F	C	0%	100%	PU	87020
1.00	3	1	0	0	710792	2	M	C	0%	0%	PR	87109
1.00	3	1	0	0	413741	3	F	N	0%	0%	PR	87109
1.00	3	1	0	0	707176	1	F	-	0%	0%	PR	87109
1.00	3	1	0	0	571390	2	F	M	0%	0%	PR	87109
1.00	3	1	0	0	275966	5	F	M	0%	0%	PR	87109
1.00	3	1	0	0	425161	3	M	M	0%	0%	PR	87109
1.00	3	1	0	0	406612	2	F	H	0%	0%	PR	87109
1.00	3	1	0	0	260318	4	F	C	0%	0%	PR	87109
1.00	3	1	0	0	260237	2	F	C	0%	0%	PR	87109
1.00	3	1	0	0	417476	2	F	C	0%	0%	PR	87109
1.00	3	1	0	0	98084	3	F	C	0%	0%	PR	87109
1.00	3	1	0	0	408189	2	F	C	0%	0%	PR	87109
1.00	3	1	0	0	684561	1	F	H	0%	0%	PR	87120
1.00	3	1	0	0	684586	2	F	C	0%	0%	PR	87120
1.00	3	1	0	0	649947	2	F	H	0%	0%	PR	87120
1.00	3	1	0	0	702457	4	F	A	0%	0%	PR	87731
1.00	3	1	0	0	675547	1	M	H	0%	0%	PR	87109
1.00	3	1	0	0	674216	3	F	B	0%	0%	HS	87185
1.00	3	1	0	0	674216	3	F	B	0%	0%	HS	87185
0.94	3	1	0	0	685601	3	F	-	0%	6%	PU	87544
0.94	3	1	0	0	597120	9	F	A	0%	6%	PU	87544
0.94	3	1	0	0	597120	9	F	A	0%	6%	PU	87544
0.87	3	1	0	0	533393	3	F	A	2%	11%	PU	87122
0.77	3	1	1	2	655456	5	F	C	5%	17%	PC	87501
0.77	3	1	1	2	430854	9	F	N	5%	17%	PC	87501
0.77	3	1	1	2	633664	4	M	-	5%	17%	PC	87501
0.77	3	1	1	2	633664	4	M	-	5%	17%	PC	87501
0.77	3	1	1	2	651104	4	M	H	5%	17%	PC	87501
0.77	3	1	1	2	495838	4	M	H	5%	17%	PC	87501
0.77	3	1	1	2	495838	4	M	H	5%	17%	PC	87501
0.77	3	1	1	2	430854	9	F	N	5%	17%	PC	87501
0.77	3	1	1	2	430854	9	F	N	5%	17%	PC	87501
0.77	3	1	1	2	430854	9	F	N	5%	17%	PC	87501

Ratio School NSLP Ineligible	Award Code	Any Award	Any Title I	Title I Support Code	Student ID + Key	Count of Entries from Student	Gender	Ethnicity	Percent Reduced Lunch	Percent Free Lunch	Public/Charter/Private/Home	School Zip
0.76	3	1	1	2	646053	2	F	C	0%	24%	PC	87109
0.76	3	1	0	0	681889	13	M	B	6%	18%	PU	87106
0.73	3	1	0	0	701279	3	M	C	5%	22%	PU	87111
0.73	3	1	0	0	701279	3	M	C	5%	22%	PU	87111
0.73	3	1	0	0	575190	5	F	C	5%	22%	PU	87111
0.73	3	1	0	0	437879	3	F	C	5%	22%	PU	87111
0.73	3	1	0	0	594044	2	F	A	5%	22%	PU	87111
0.71	3	1	0	0	92901	9	F	N	6%	23%	PU	87114
0.63	3	1	1	1	690793	1	F	C	6%	30%	PU	87124
0.62	3	1	1	1	616438	1	F	C	8%	31%	PC	88005
0.58	3	1	1	2	597033	1	M	N	11%	31%	PC	87508
0.57	3	1	1	2	90700	8	F	A	4%	39%	PU	88011
0.57	3	1	1	2	90700	8	F	A	4%	39%	PU	88011
0.57	3	1	1	2	90700	8	F	A	4%	39%	PU	88011
0.57	3	1	1	2	90700	8	F	A	4%	39%	PU	88011
0.57	3	1	1	2	90700	8	F	A	4%	39%	PU	88011
0.52	3	1	1	2	652530	6	F	C	9%	39%	PC	87108
0.52	3	1	1	2	652530	6	F	C	9%	39%	PC	87108
0.52	3	1	1	2	652530	6	F	C	9%	39%	PC	87108
0.46	3	1	1	2	632247	3	F	C	14%	40%	PC	87112
0.45	3	1	1	2	712170	3	F	M	13%	41%	PU	79925
0.45	3	1	1	2	658300	3	F	H	13%	41%	PU	79925
0.45	3	1	1	2	661292	1	M	H	13%	41%	PU	79925
0.45	3	1	1	2	663043	1	F	H	13%	41%	PU	79925
0.45	3	1	1	2	697616	2	F	H	13%	41%	PU	79925
0.45	3	1	1	2	595833	3	F	C	13%	41%	PU	79925
0.40	3	1	1	2	648638	1	F	-	8%	53%	PU	87102
0.40	3	1	1	2	654585	4	F	H	8%	53%	PU	87102
0.38	3	1	1	2	696439	1	F	H	5%	57%	PU	87109
0.38	3	1	1	2	696325	1	F	H	5%	57%	PU	87109
0.38	3	1	1	2	693839	2	F	H	5%	57%	PU	87109
0.38	3	1	1	2	526074	8	F	A	5%	57%	PU	87109
0.35	3	1	1	2	705563	9	F	H	13%	51%	PU	79915
0.35	3	1	1	2	714968	9	M	H	13%	51%	PU	79915
0.32	3	1	1	2	689183	1	F	M	13%	55%	PU	79936
0.32	3	1	1	2	690262	1	F	H	13%	55%	PU	79936
0.21	3	1	1	2	717030	4	F	H	10%	69%	PU	79907
0.17	3	1	1	2	693796	3	F	H	0%	83%	PU	79915
0.00	3	1	1	2	615866	17	F	H	0%	100%	PU	87020
0.00	3	1	1	2	700190	2	-	-	0%	100%	PU	87501
0.00	3	1	1	2	700278	3	-	-	0%	100%	PU	87501
0.00	3	1	1	2	700278	3	-	-	0%	100%	PU	87501
0.00	3	1	1	2	705047	2	F	N	0%	100%	PU	87002
0.00	3	1	1	2	706427	3	F	H	0%	100%	PU	88081

Ratio School NSLP Ineligible	Award Code	Any Award	Any Title I	Title I Support Code	Student ID + Key	Count of Entries from Student	Gender	Ethnicity	Percent Reduced Lunch	Percent Free Lunch	Public/Charter/Private/Home	School Zip
0.00	3	1	1	2	615866	17	F	H	0%	100%	PU	87020
0.00	3	1	1	2	705980	8	F	H	0%	100%	PU	87020
0.00	3	1	1	2	705980	8	F	H	0%	100%	PU	87020
0.00	3	1	1	2	498779	7	M	H	0%	100%	PU	87020
0.00	3	1	1	2	496279	17	F	C	0%	100%	PU	87020
0.00	3	1	1	2	496279	17	F	C	0%	100%	PU	87020
0.00	3	1	1	2	499339	17	F	C	0%	100%	PU	87020
0.00	3	1	1	2	499339	17	F	C	0%	100%	PU	87020
0.00	3	1	1	2	499339	17	F	C	0%	100%	PU	87020
0.00	3	1	1	2	499339	17	F	C	0%	100%	PU	87020
0.00	3	1	1	2	499339	17	F	C	0%	100%	PU	87020
0.00	3	1	1	2	499339	17	F	C	0%	100%	PU	87020
0.00	3	1	1	2	499339	17	F	C	0%	100%	PU	87020
0.00	3	1	1	2	660267	10	F	N	0%	100%	PU	87020
0.00	3	1	1	2	496279	17	F	C	0%	100%	PU	87020
0.00	3	1	1	2	656274	9	F	C	0%	100%	PU	87108
0.00	3	1	1	2	692749	1	M	H	0%	100%	PU	87123
0.00	3	1	1	2	709544	2	N	N	0%	100%	PU	87420

Note. Complete dataset is available as supplemental material online at
https://drive.google.com/file/d/1yvDZmaykWmFqb9wgKIarhMZl41u2SXkY/view?usp=sharing

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   P7-

   P9&sht=OUTPUT&urls=xplore&mi=false&svt=false&nd=1&vl=SHORT&yo=D

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Figures

Figure 1
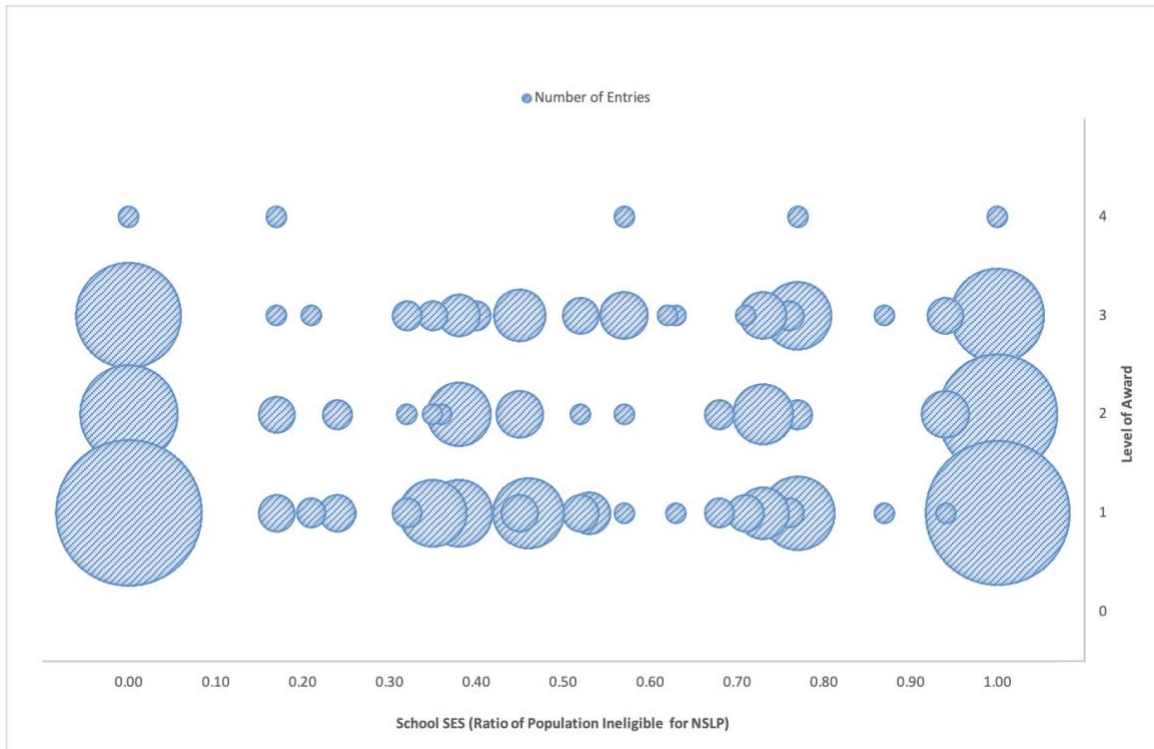
Number of Entries Distributed Across School SES

Figure 1. NMSAA 2020 entries (*n* = 1,016) are plotted on a graph with the *Y* axis representing the range of levels of award and the *X* axis representing the range of school SES indicated by ratio of population not eligible for NSLP. The number of entries at each point is visualized by the area of the bubble.

Figure 2

Comparing Observed and Expected Levels of Recognition
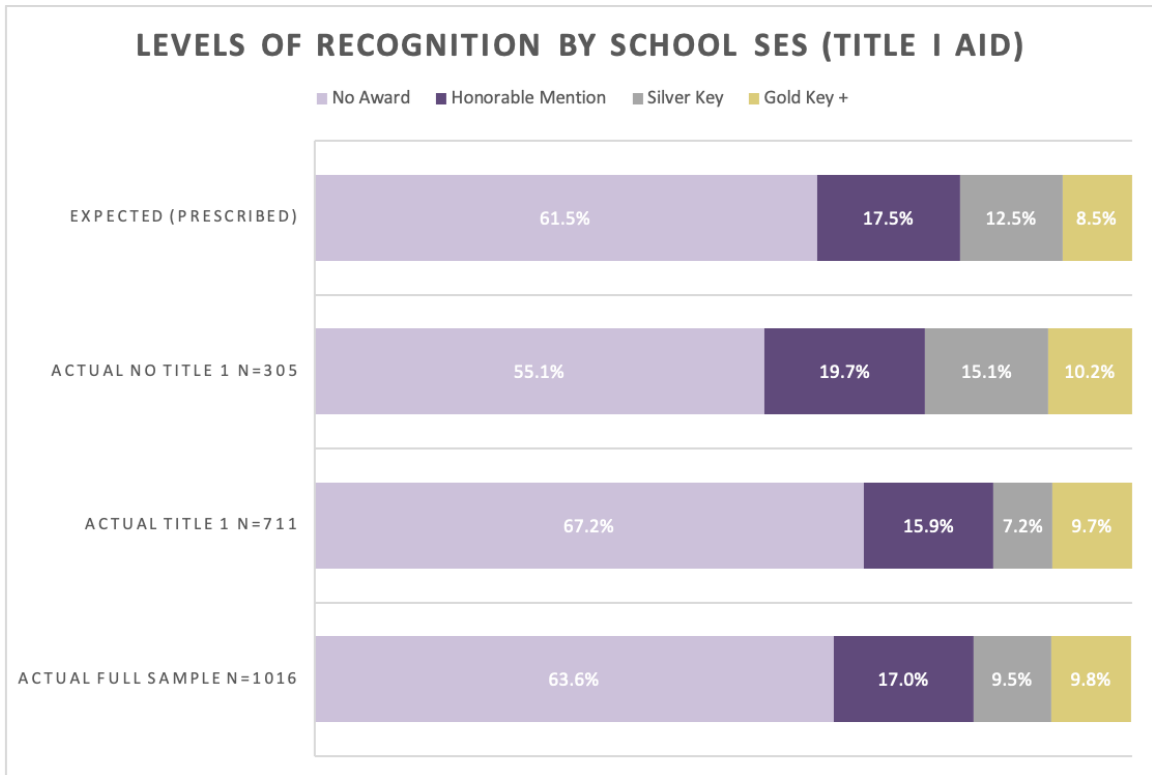

Figure 2. Stacked-bar chart displaying expected and actual proportions of awards for entries from high-SES schools with no Title I aid, low-SES Schools with Title I aid, and full sample.

Figure 3

Combined Histogram and Probability Model from Logistic Regression Analysis.

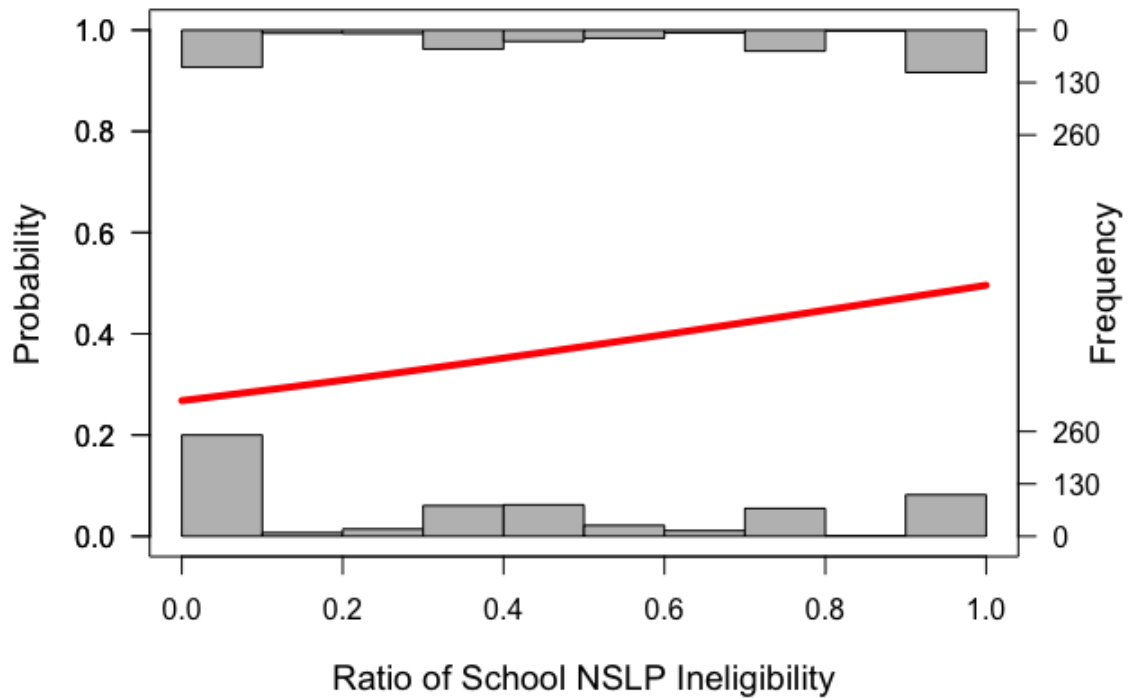Figure 3. The histograms at the top and bottom of the plot represent the number of entries from varying school SES that have received (1) or not received (0) an award in 2020 NMSAA. The line in the center plots the increasing probability of receiving an award as school SES of the entry increases from a ratio of 0 to 1 school ineligibility for NSLP. This plot was generated using *R* statistical software (R Core Team, 2020).

Tables

Table 1

Description of Sample

	Schools (n_1)	Participants (n_2)	Entries by school Title I support		
			None (n_3)	Any (n_4)	Total (N)
Home School	0	4	9	0	9
Private School	5	111	187	0	187
Public School	38	238	109	575	684
Public Charter	7	45	0	136	136
Total	50	394	305	711	1016

Table 2

Descriptive Statistics for Key Variables

	School SES[a]	*Title I Support*[b]	*Award*[c]
Mean	0.434	1.395	0.661
SE	0.012	0.029	0.032
Median	0.4	2	0
Mode	0	2	0
SD	0.381	0.917	1.018
Sample Variance	0.145	0.840	1.036
Kurtosis	-1.383	-1.255	0.592
Skewness	0.223	-0.860	1.361
Range	1	2	4
Minimum	0	0	0
Maximum	1	2	4
Count	1016	1016	1016

Note: Independent variables of school SES are categorical.
[a]Ratio of school population not eligible for NSLP
[b]Title I Support coded as 0 = None; 1 = Targeted; 2 = Schoolwide
[c]Award coded as 0 = None; 1 = Honorable mention; 2 = Silver key; 3 = Gold key; 4 = Gold key + American Visions Nominee

Table 3

Contest Entries Data Fitted to Logistic Regression Analysis

Ratio of school population NSLP ineligible	NMSAA 2020 contest entries			Predicted probability of award, with 95% confidence limits[c]			
	No award[a] (n_1)	Award[b] (n_2)	Total (N)	Probability	Low	--	High
0.00	251	92	343	0.2679	0.2294		0.3104
0.17	7	8	15	0.3022	0.2684		0.3382
0.20	2	0	2	0.3084	0.2755		0.3435
0.21	8	3	11	0.3106	0.2779		0.3453
0.24	10	5	15	0.3169	0.2850		0.3507
0.25	0	1	1	0.3191	0.2874		0.3526
0.32	8	5	13	0.3343	0.3040		0.3661
0.35	23	13	36	0.3409	0.3110		0.3722
0.36	7	1	8	0.3432	0.3133		0.3743
0.38	22	23	45	0.3476	0.3180		0.3785
0.39	1	0	1	0.3499	0.3203		0.3806
0.40	15	5	20	0.3521	0.3226		0.3828
0.44	2	0	2	0.3612	0.3317		0.3918
0.45	16	14	30	0.3635	0.3339		0.3941
0.46	60	14	74	0.3658	0.3362		0.3964
0.51	2	0	2	0.3773	0.3472		0.4084
0.52	11	7	18	0.3796	0.3493		0.4109
0.53	14	4	18	0.3820	0.3514		0.4134
0.57	0	8	8	0.3913	0.3599		0.4237
0.58	0	1	1	0.3937	0.3619		0.4264
0.62	0	1	1	0.4032	0.3701		0.4372
0.63	2	2	4	0.4056	0.3721		0.4399
0.68	12	4	16	0.4175	0.3820		0.4540
0.71	30	4	34	0.4248	0.3877		0.4626
0.73	12	19	31	0.4296	0.3916		0.4685
0.76	12	4	16	0.4369	0.3972		0.4774
0.77	15	25	40	0.4393	0.3991		0.4804
0.87	1	2	3	0.4638	0.4174		0.5108
0.94	3	9	12	0.4810	0.4299		0.5326
1.00	100	96	196	0.4958	0.4404		0.5514
Total Count:	646	370	1016				

Note: Independent variable of ratio of school NSLP ineligible is continuous.
[a]Coded as 0 = No award
[b]Coded as 1 = Award
[c]Output from online logistic regression calculator (Pezzullo, 2015) with award and school ses variables for 1,016 entries in dataset.

Table 4

Description of Dataset for Logistic Regression

Recognition of contest entries	Sample Frequency (*n*)	School SESa	
		M	*SD*
Award	646	0.52	0.39
No award	370	0.38	0.36
Summary	1016	0.43	0.38

a Continuous predictor variable of ratio of school population ineligible for NSLP.

Table 5

Logistic Regression Analysis of 1016 Entries' SES and Awards by R (Version 3.6.3)

Deviance Residuals:

Min	1Q	Median	3Q	Max
-1.1704	-0.9543	-0.7898	1.2826	1.623

Coefficients:

	Estimate	Std. Error	z value	Pr(>|z|)
(Intercept)	-1.0051	0.1056	-9.522	< 2e-16 *
schoolses[a]	0.9885	0.1745	5.664	1.48e-08 *

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 1332.5 on 1015 degrees of freedom
Residual deviance: 1299.7 on 1014 degrees of freedom

AIC: 1303.7

Number of Fisher Scoring iterations: 4

Note. R programming codes: model <- glm(award~schoolses, binomial) print(summary(model))
*p < .001
[a]The independent variable *schoolses* is the ratio of school population ineligible for NSLP.