Psychology of Women Quarterly
2016, Vol. 40(2) 155-170

DOI: 10.1177/0361684316629797
pwq.sagepub.com
SAGE

Intersectionality in Quantitative Psychological Research: I. Theoretical and Epistemological Issues

Nicole M. Else-Quest[1] and Janet Shibley Hyde[2]

Abstract

Intersectionality has become something of a buzzword in psychology and is well-known in feminist writings throughout the social sciences. Across diverse definitions of intersectionality, we find three common assumptions: (1) There is a recognition that all people are characterized simultaneously by multiple social categories and that these categories are interconnected or intertwined. (2) Embedded within each of these categories is a dimension of inequality or power. (3) These categories are properties of the individual as well as characteristics of the social context inhabited by those individuals; as such, categories and their significance may be fluid and dynamic. Understanding intersectionality as an approach and critical theory, rather than as a falsifiable theory, we consider its potential within research using quantitative methods. We discuss positivism, social constructionism, and standpoint epistemology in order to examine the implications of these epistemologies for research methods and to explore how compatible an intersectional approach may be with each. With an eye toward expanding the incorporation of intersectional approaches in the psychology of women, we discuss both the challenges and the potential of combining quantitative methods and intersectionality. We contend that quantitative methods can be used within an intersectional approach and that doing so will expand and develop the study of intersectionality, insofar as more research tools will be available to intersectionality researchers. We also contend that quantitative researchers should incorporate an intersectional approach into their work and that doing so will enrich and deepen our understanding of psychological constructs and processes.

Keywords

quantitative methods, intersectionality, epistemology, human sex differences, racial and ethnic differences, feminist methods, power

Intersectionality, the theoretical or analytical approach that simultaneously considers multiple categories of identity, difference, and inequality (such as gender, race, class, sexual orientation, disability, and religion, as well as others; Cole, 2009), has deep roots in feminist psychology and critical race theory but represents a new frontier in many other areas of psychological research. To promote an intersectional approach, Cole (2009) proposed that psychologists broaden their research questions to examine heterogeneity within social categories and to explore how power and inequality construct those categories. Thus, an intersectional approach in psychology reconceptualizes the meaning of social categories and shifts the research focus toward identifying and understanding the mechanisms by which inequalities are created and expressed within those categories. As such, intersectional approaches can reframe many questions in psychology and, at the same time, provide new answers.

Scholars agree that intersectionality does not require an entirely new set of methods (e.g., Cole, 2009; Ferree, 2010; Warner, 2008; Warner & Shields, 2013), yet some have argued that qualitative methods are more compatible with intersectional approaches than are quantitative methods (e.g., Bowleg, 2008; Shields, 2008; Syed, 2010). The application of intersectional approaches using quantitative methods has been recognized recently in some disciplines, including sociology (Choo & Ferree, 2010), gender studies (Spierings, 2012), and family studies (Few-Demo, 2014). Our goal is to make explicit the possibility and opportunity of an intersectional approach using quantitative methods within psychology and, ultimately, to promote and expand the use of intersectional approaches throughout the discipline. Psychological research using quantitative methods will be

[1] Department of Psychology, University of Maryland, Baltimore County, Baltimore, MD, USA
[2] Department of Psychology, University of Wisconsin–Madison, Madison, WI, USA

Corresponding Author:
Nicole M. Else-Quest, Department of Psychology, University of Maryland, Baltimore County, 1000 Hilltop Circle, Baltimore, MD 21250, USA.
Email: nmeq@umbc.edu

enriched by the incorporation of intersectionality, in that intersectional approaches can enhance the value and validity of psychological research. Intersectionality will be expanded and developed by the incorporation of quantitative methods, in that more methodological tools will offer more opportunities for new questions and more diverse perspectives on psychological phenomena.

In this article, we argue that quantitative methods can be used within an intersectional approach and that quantitative researchers should incorporate an intersectional approach to their work. To that end, we examine theoretical and epistemological reasons for combining intersectionality and quantitative methods. First, we provide an overview of the concept of intersectionality and discuss whether intersectionality is better considered a theory or an approach. Then, we discuss three epistemologies—positivism, social constructionism, and standpoint epistemology—and consider how each supports using quantitative methods in intersectionality research. We conclude by discussing the challenges and potential of linking intersectionality and quantitative methods and issue a call for the incorporation of intersectionality into research using quantitative methods.

The Concept of Intersectionality

Intersectionality has become something of a buzzword across multiple academic disciplines, particularly within feminist perspectives (Davis, 2008). Many disciplines within the social sciences (e.g., sociology and political science) have been more involved with intersectional approaches than has psychology. A review of all research across disciplines that has employed the concept of intersectionality is beyond the scope of this article; excellent reviews are available (e.g., M. T. Berger & Guidroz, 2009; Choo & Ferree, 2010; Cole, 2009; Few-Demo, 2014; Hancock, 2007; May, 2015). Within psychology, intersectionality research has received most attention within feminist psychology (see Shields, 2008, for a review), but intersectionality is relevant to other areas of psychology. For example, a special issue of the *Journal of Social Issues* was devoted to intersectionality, focusing on systems of privilege (Case, Iuzzini, & Hopkins, 2012).

Although definitions of intersectionality share attributes such as an emphasis on gender, race, and class, and the power conferred by these social categories, definitions also differ in nontrivial ways. Cho, Crenshaw, and McCall (2013) described the historical evolution of the term and its applications, arguing that intersectionality emerged as "a heuristic term to focus on the vexed dynamics of difference and the solidarities of sameness in the context of antidiscrimination and social movement politics" (p. 787). Indeed, Black feminist theorist and legal scholar Kimberlé Crenshaw (1989, 1991) is credited with having first coined the term in relation to the needs of African American women vis-à-vis the feminist and civil rights movements. In her *Stanford Law Review* article, Crenshaw did not provide a precise definition of intersectionality but applied the term to the simultaneous consideration of race and gender, arguing that gender analysis by itself, or race analysis by itself, typically excludes women of color. That is, only by considering race and gender simultaneously can the experiences and voices of women of color be understood. More broadly, intersectionality has its roots in Black feminism (Alexander-Floyd, 2012; May, 2015). The Combahee River Collective (1982) articulated a Black feminist statement grounded in the understanding that "the major systems of oppression are interlocking" (p. 13). Patricia Hill Collins (2000) referred to intersecting oppressions in her writings on Black feminism and described how "U.S. Black women encounter a distinctive set of social practices that accompany our particular history within a unique matrix of domination characterized by intersecting oppressions" (p. 23). And intersectionality is implicit in Essed's (1991) term, "gendered racism," which refers to oppression that stems from simultaneous membership in the social categories of gender and race (e.g., oppression experienced by Black women).

Sociologists Choo and Ferree (2010) and psychologist Cole (2009) provided more explicit definitions. Choo and Ferree (2010) described intersectionality as including three aspects:

> . . . the importance of including the perspectives of multiply-marginalized people, especially women of color; an analytic shift from addition of multiple independent strands of inequality toward a multiplication and thus transformation of their main effects into interactions; and a focus on seeing multiple institutions as overlapping in their co-determination of inequalities. (p. 131)

In another paper, Ferree (2010) noted that an approach or perspective is labeled intersectional, "if it takes multiple relations of inequality as the norm, sees them as processes that shape each other, and considers how they interactively define the identities and experiences—and thus analytic standpoints—of individuals and groups" (p. 428). In a similar manner, Cole (2009) defined intersectionality as "analytic approaches that simultaneously consider the meaning and consequences of multiple categories of identity, difference, and disadvantage" (p. 170).

These and other definitions differ in specific details, yet they share three common assumptions which undergird our working definition of intersectionality: (1) A recognition that all people are characterized simultaneously by multiple social categories, including, for example, gender, race and ethnicity, class, and sexual orientation; these multiple social categories are interconnected or intertwined, such that the experience of each social category is linked to the other categories. (2) Embedded within each of these socially constructed categories is a dimension or aspect of inequality or power, and recognition of inequality or power is essential to an

intersectional analysis. (3) These categories are properties of the individual (i.e., identity) as well as characteristics of the social context inhabited by those individuals (i.e., social structures, institutions, and interpersonal interactions construct the categories and enforce the power inequalities); as such, these categories and their significance may be fluid and dynamic. While there is no consensus definition of intersectionality, we believe that these common assumptions provide a sufficiently inclusive yet appropriately specific characterization of the concept to form a working definition of the concept. We further elaborate on our working definition below.

Variations on a theme. As we hope it is clear, there is no single, dominant gatekeeper or litmus test of intersectionality research. There is, instead, substantial diversity across theorists and researchers in what is considered to be an intersectional approach or intersectional analysis (Cho, Crenshaw, & McCall, 2013; Choo & Ferree, 2010). Crenshaw (1991) described the ways that race and gender intersect to shape different aspects of violence against women of color, thereby distinguishing structural, political, and representational intersectionality, which can be construed as three different processes involved in intersectionality. *Structural intersectionality* refers to how being at a particular location of an intersection creates a qualitatively different experience of phenomena relative to another location of the same intersection. Intervention strategies to address gender-based violence may not take into account race, class, or nativity, and thus may not adequately represent the realities of poor immigrant women who experience such forms of violence. *Political intersectionality* has to do with how political forces, focusing on one social category, serve to marginalize those who are disadvantaged within that category. For example, the feminist and antiracist movements have often marginalized women of color by ignoring race and gender, respectively. In contrast, *representational intersectionality* refers to how social categories are constructed and represented within popular culture and how that process can disadvantage individuals at a particular intersectional location; media representations of women of color may differentially serve racist and misogynist agendas. While Crenshaw focused her discussion on the experience of women of color as marginalized simultaneously on gender and race, the spirit of her argument is widely understood as being applicable to those in various locations at various intersections. Each of these three intersectional processes, representing different ways in which the experiences of individuals at specific intersectional locations may differ and/or be marginalized, can be examined within psychology. For example, some researchers have explored racism as a barrier experienced by women of color seeking support in domestic violence shelters: Shelters may not do outreach to women of color, stereotypes of the ''strong Black woman'' may minimize the suffering of women of color experiencing violence, and shelter staff may commit racial microaggressions against women of color (e.g., Nnawulezi & Sullivan, 2014).

Just as Crenshaw identified different intersectional processes, McCall (2005) elaborated on the empirical application of the concept of intersectionality. McCall described three types of intersectional approaches—*anticategorical*, *intracategorical*, and *intercategorical* complexity—that differ in regard to how categories are construed, noting that not all intersectional research might fit into one of the three approaches. The anticategorical complexity approach assumes categories are socially constructed, and that this process inevitably creates segregation and inequality among those socially constructed categories, and thus seeks to deconstruct categories entirely. Still, this argument may not preclude the analysis of categories. By identifying a process whereby categorization fosters inequality, the need for an intersectional approach is made evident. Indeed, Crenshaw (1991) contended, ''Recognizing that identity politics takes place at the site of where categories intersect thus seems more fruitful than challenging the possibility of talking about categories at all'' (p. 377). By contrast, McCall's intracategorical complexity approach assumes that categories have an ambivalent status and does not make comparisons across categories or deny that categories are meaningful. Instead, it emphasizes diversity and subcultural variation within categories. This approach analyzes the experiences of individuals and groups at multiply-subordinate locations of the intersection. The third approach, intercategorical complexity, assumes inequality among categories and focuses analysis on the relationships and processes that produce the inequalities. In doing so, categories—however socially constructed—must be used at least provisionally. This approach, which analyzes the relationships and processes that produce inequalities among categories, is necessarily and systematically comparative.

What qualifies as intersectional research?. Embracing the potential of the intersectional processes conceptualized by Crenshaw, as well as the diversity of research approaches within intersectionality described by McCall, we return to our working definition and the common assumptions of intersectionality. We contend that there are three essential elements of an intersectional approach to empirical research.

First, intersectional research must attend to the experience and meaning of simultaneously belonging to multiple intertwined social categories. Simultaneous attention to multiple social categories is infrequent in psychological research, and research based on an understanding that several categories are interconnected or intertwined is very rare. In their report on the contributions of feminism to psychology, Eagly, Eaton, Rose, Riger, and McHugh (2012) noted that ''only a minority'' of articles on the psychology of women and gender included attention to the heterogeneity or diversity within gender such that the articles also included race or ethnicity, social class or poverty, or sexual orientation (p. 217).

Although those articles included attention to more than one social category, this is not sufficient to qualify as intersectionality. Cautioning against understanding intersectionality as a heuristic, Warner and Shields (2013) argued that simply examining interactive effects of social categories such as gender, race, and class is insufficient to qualify as an intersectional approach; there must be an explicit rationale for such analyses. Intersectionality is more than just a factorial design. Instead, under our definition, intersectional research must also include the two other essential elements.

The second essential element of intersectional research is the examination of power and inequality. That is, the research must explicitly theorize or analyze how power and inequality are rooted in, fostered by, or perpetuated by membership in multiple social categories. Cole (2009) argued that an intersectional approach should attend to the roles that power and inequality might play in constructing the experience of belonging to multiple social categories. Analysis of power and inequality is an essential part of feminist psychology (Hyde, 2012). Under our working definition, analysis of power and inequality might also be included in research concerning social class, disability, gender, race/ethnicity, immigration, and sexual orientation, which are social categories with meaning and significance derived from their social construction. Similarly, McCall (2001) included the explicit role of power and inequality in her definition of intersectionality, maintaining that intersectionality scholarship should be concerned with ''multiple, overlapping, conflicting, and changing structures of inequality'' (p. 14).

The examination of power and inequality is linked to the third essential element of intersectional research, which is attending to social categories as properties of the individual as well as their social context, and considering those categories and their significance or salience as potentially fluid and dynamic. The power that is embedded within social categories such as gender and race is fostered and perpetuated by social contexts and experienced by individuals psychologically. In the social context of a traditional workplace, the power that a White lesbian experiences includes advantage from being White and disadvantage from being a woman; more disadvantage may accrue depending on whether she is out, but not being out could also be disempowering. Yet, if the social context were different (e.g., she works at a feminist bookstore), the power dynamics resulting from her three categories would be different. Social structures may also perpetuate these inequalities by, say, prohibiting legal marriage among same-gender partners. In addition, her personal affirmation of her identity as a lesbian may change over time and across her life span. Because social categories are properties of the individual as well as of the social context, the meaning and significance or salience of such social categories is not static but fluid and dynamic. In addition, a category such as race is fluid, insofar as race has different meanings and is interpreted differently in different situations, contexts, and cultures as well as across history. This fluidity reflects the socially constructed nature of social categories and their significance.

These three essential elements are interdependent and rooted in the socially constructed nature of social categories. Given our working definition of intersectionality, we contend that all three elements must characterize a project in order for that work to be fully intersectional.

Intersectionality: Theory or Approach?

Scholars remain equivocal as to whether intersectionality constitutes a research/analytic approach (e.g., Cole, 2009) or framework (e.g., Settles, 2006), a theory or hypothesis (e.g., O'Brien, Blodorn, Adams, Garcia, & Hammer, 2015; Walby, Armstrong, & Strid, 2012), or some combination of these (e.g., Hancock, 2007; Warner & Shields, 2013). To some extent, this equivocation reflects the expansion and clarification of the concept of intersectionality over time and across disciplines (Cho et al., 2013) as well as diversity in epistemological and methodological perspectives among intersectionality researchers.

We maintain that intersectionality is best understood as a critical theory, which assumes a fundamental role of power relations in the construction of thought, experience, and knowledge, an assumption understood as inconsistent with positivist framings of theory (Guba & Lincoln, 1994). Researchers who adopt critical theory are concerned with empowering individuals and groups to transcend the constraints imposed by the constructed inequities of social categories. In psychology, this can involve examining the assumptions of theories, particularly with regard to how those assumptions and theories might be complicit with forces of domination, oppression, and social exclusion (Sloan, 2009). This perspective also challenges the decontextualization of individuals and emphasizes how cultural, historical, economic, familial, institutional, and local processes construct psychological experience. Moreover, Kincheloe and McLaren (2005) emphasized that critical theory assumes, ''that oppression has many faces and that focusing on only one at the expense of others (e.g., class oppression versus racism) often elides the interconnections among them'' (p. 304). Essential to criticalist approaches is the goal of social justice and the perspective of an advocate for the oppressed and disadvantaged. Rooted in critical race theory, intersectionality seeks to address other differences and inequities linked to social categories beyond race or gender alone.

Intersectionality is not a theory in the positivist sense. Mainstream quantitative psychology has been grounded in a positivist epistemology, which posits that if intersectionality is a theory or hypothesis, then it should be falsifiable (Popper, 1959). That is, traditional criteria for evaluating psychological theory require that certain patterns of empirical results could contradict intersectionality as a theory or be inconsistent with it. Cho et al. (2013) cautioned against evaluating intersectionality as a theory, arguing that its objectives

go beyond those of traditional psychological theory. We agree and maintain that conceptualizing intersectionality as a falsifiable theory obfuscates its primary objectives, which are to give voice to marginalized perspectives, to promote the well-being of those who are marginalized, and to understand how inequality, embedded within simultaneous memberships in multiple social categories, shapes our experiences.

Thus, we assert that intersectionality is best understood as a critical theory and approach and should not be conceptualized as a falsifiable theory in the positivist sense of theory. As such, researchers may work from existing theories in psychology but, at the outset, may use intersectionality as an approach that guides attention and reframes research questions and hypotheses.

Epistemologies

In this section we consider three epistemologies that underlie diverse research approaches in psychology: positivism, social constructionism, and standpoint epistemology. We briefly describe the methods traditionally linked to each of the three epistemologies (Guba & Lincoln, 1994). Epistemologies, or theories about knowing, vary with regard to specific assumptions about the knower, what is known, and the process of knowing. Feminists generally maintain that these assumptions are related to one another (Sprague, 2005). Thus, we also discuss how each epistemology conceptualizes the role of power and inequality in the process of knowing, insofar as power and inequality relate to the applicability of an intersectional approach within positivism, social constructionism, and standpoint epistemology. Understanding intersectionality as a critical theory that assumes a fundamental role of power relations in the construction of thought, experience, and knowledge, we raise the issue of which epistemologies are compatible with intersectionality. Discussion of epistemologies is necessary for understanding the possibility of using quantitative methods within intersectionality.

Positivism and feminist empiricism. Across the broad swath of psychological research, and science more generally, positivism is undoubtedly the most common underlying epistemology, even though the individual researcher may not be aware of the epistemology. Researchers who work within a positivist epistemology believe that there is an objective reality or "the truth" in the world, that natural laws govern truth, and that scientists can know this directly. Scientists will discover "facts" if they are objective and design their research well (Sprague, 2005; Wittig, 1985). Researchers operating under a positivist epistemology generally believe that science is, or should be, value-neutral and that the facts that they discover are value-neutral.

Although many feminist researchers have been critical of positivism, feminist empiricism (Harding, 1986; Hawkesworth, 1989; Riger, 1992) begins with a positivist epistemology and then identifies factors, such as sexism, androcentrism, and ethnocentrism, that bias research. Feminist empiricism maintains that objective science is possible when researchers eliminate sources of bias in their methods (Riger, 1992). Feminist empiricists therefore seek to improve science by correcting these biases within the methods and theories, while working within a positivist epistemology with the goal of promoting equity and social justice.

In policy debates, feminist scholars often adopt a feminist empiricist or positivist stance to describe quantitative data. For example, if a researcher claims that women assault their male intimate partners as much as the reverse (e.g., Straus, 2008), feminist scholars are quick to point out the flaws in the research methods (e.g., underestimating specific gendered forms of intimate partner violence or examining assault as specific behaviors on a checklist rather than examining the impact of those behaviors), arguing that those methods have not revealed the true facts (Hamby, 2009). While traditional positivism has declared knowledge and science as value-free, feminist empiricists have proposed that this stance can obscure power and privilege in the research process, so that biased measurement tools or sampling techniques, for example, might bias findings systematically and maintain the position of the powerful.

Can positivism and feminist empiricism serve as epistemologies that undergird intersectional approaches? Classic positivism, with its assertion that scientists are discovering facts, seems an unlikely partner for intersectionality. In particular, positivist claims to objective and universal truth are inherently at odds with critical theory (Guba & Lincoln, 1994), given the criticalist emphasis on power relations in the construction of knowledge. Feminist empiricism, however, might be reconcilable with intersectionality in some ways. Feminist empiricists seek to be attentive to issues of bias in the research process and therefore should recognize the importance of attending to issues such as the race, class, and sexual orientation of participants in research. Still, other epistemologies might more easily be compatible with intersectionality, particularly when intersectionality is understood as a critical theory.

Social constructionism. Social constructionism is an alternative to positivism. Social constructionists hold that people, including scientists, do not discover reality directly; instead, their understanding of the world is socially negotiated and constructed through social experience (P. Berger & Luckman, 1966; DeLamater & Hyde, 1998; Watzlawick, 1984). According to postmodernist and poststructuralist views, our understanding of reality is a representation of reality rooted in our language, history, and culture (Hare-Mustin & Marecek, 1988), as well as power (Riger, 1992). Social constructionism challenges the belief that science is fundamentally objective or value-neutral and that it discovers facts (Hare-Mustin & Marecek, 1988). According to the social constructionist point of view, scientific knowledge, like all other knowledge, is shaped by the values and presuppositions of the perceiver—in this case, the scientist. Social constructionism

maintains that power and knowledge are inextricably linked, such that the power is exercised through the construction of knowledge.

In this view, gender itself is socially constructed. Most researchers in the United States have typically assumed that it is a fact that gender is categorical and that there are two gender categories, not more. This contrasts with assumptions in some other societies and with contemporary trends toward including transgender men and women as distinct categories or as a noncategory. Feminist sociologists refer to "doing gender," the notion that gender is constructed and maintained in social interactions (West & Zimmerman, 1987). According to social constructionism, then, gender is socially constructed on multiple levels: (1) Individuals engage in social constructions, for example, as they behave differently toward another person depending on that person's gender. (2) Any given culture provides a set of social constructions of gender, for example, whether there are two genders or more. (3) Scientists socially construct gender by the way they construct their research, which is often guided by their own beliefs about and experiences of gender.

Given both the willingness to engage reflexively (i.e., to examine oneself as a researcher who brings values and bias to the research process) in examining how knowledge is constructed and the premise that there is no one objective, universal "truth," social constructionism is, in many ways, compatible with intersectionality. Still, some (e.g., Sprague, 2005) raise concerns that social constructionism can give way to relativism, a slippery slope where no interpretation of reality is privileged and all interpretations are equivalent and valid. Such relativism is particularly problematic in the context of the struggle against oppression because oppressive institutions or practices may be validated, thereby reinforcing the status quo and paralyzing empowerment efforts. For example, a practice such as female genital cutting might be advocated on the grounds that it is "healthy"; however, with radical social constructionism and complete relativism, there are no impartial standards for what is healthy and it becomes more difficult to challenge the practice.

Standpoint epistemologies. According to standpoint epistemology, knowledge is socially constructed but not relative (Sprague, 2005). A knower constructs knowledge from a particular location or standpoint, which includes physical location, history, and culture (Harding, 1998). A particular scientist, then, has a particular standpoint that provides only a partial view of any phenomenon (Haraway, 1988). Similarly, every research question is located within a standpoint (Sprague, 2005, p. 180). Standpoints are not random or spontaneous but are grounded in history and culture, conferring a particular vantage point. Moreover, because the scientist operates from a privileged standpoint, the standpoint of the oppressed or disadvantaged is crucial. The role of power is explicit here, insofar as it systematically biases how knowledge is created and organized.

Feminist standpoint epistemology holds that the standpoint of women, as members of a group that experiences systematic oppression, is especially valuable, while recognizing that women are a diverse group along lines of ethnicity, social class, sexual orientation, and so on (Sprague, 2005). Feminist standpoint epistemology is compatible with intersectionality because, from this perspective, knowledge/knower/knowing are linked to social categories imbued with power. Moreover, integrating multiple standpoints, especially those characterized by oppression and disadvantage, are crucial to the creation of knowledge. Standpoint epistemologies differ from social constructionism in that social constructionist perspectives do not claim that any particular standpoint or perspective affords some epistemic advantage.

Intersectional theorist Patricia Hill Collins (2000) has articulated an Afrocentric feminist epistemology, or Black feminist epistemology, which emphasizes the standpoint of Black women. Black women's knowledge has historically been invalidated in the hierarchical system of knowledge, because Black women are neither White nor male. This systematic marginalization requires an Afrocentric feminist epistemology that challenges and reconceptualizes what dominant groups (i.e., typically, White men) define as knowledge and also how those groups acquire knowledge. Thus, Black feminist epistemology is also compatible with intersectionality, particularly because it points to knowledge/knower/knowing as rooted in simultaneous membership in multiple social categories that are linked to power and privilege. Some contend that this position offers an epistemic advantage over other standpoints, insofar as it situates the knower outside of dominant ideologies and practices, and thus fosters a more critical perspective (Sprague, 2001), although Collins (2000) has cautioned against ranking oppressed groups. Thus, while no one standpoint has privilege to the truth, some standpoints are more critical or better positioned. When ideas from multiple standpoints converge or accumulate, we can build coalitions among oppressed groups, come to a collective agreement or understanding, and resist dominant claims to truth and knowledge.

Intersectionality, epistemology, and quantitative methods. Some have characterized intersectionality as more compatible with qualitative methods than quantitative methods (e.g., Bowleg, 2008; Shields, 2008). Concerns about the compatibility of intersectionality with quantitative methods stem, in part, from epistemological issues; it is common to equate quantitative methods with a positivist epistemology and qualitative methods with a social constructionist epistemology (Guba & Lincoln, 1994; Sprague, 2005). We believe these equations are flawed. While quantitative methods have been the mainstay of studies within positivism (Guba & Lincoln, 1994), it is inaccurate to say that one necessarily entails the other (Sprague, 2005). Quantitative methods can be compatible with social constructionist and standpoint epistemologies. In addition, the tension about using quantitative

methods within an intersectional approach is linked to the goals of such methods. Quantitative methods typically engage in testing a priori hypotheses, which can limit exploration and the identification of emergent phenomena (Shields, 2008). By contrast, intersectionality does not provide clear standards for testable hypotheses or the use of specific methods (see Warner, 2008).

Unfortunately, qualitative and quantitative methods have too often been pitted against one another, with quantitative methods occupying mainstream psychology and qualitative methods frequently being marginalized. We do not wish to reignite that debate or contribute to that marginalization here. Instead, we note that some researchers may choose to specialize in qualitative or quantitative methods, that both methods can be used simultaneously in a research project (i.e., mixed methods), and that different methods may be used at different phases of the research process. For example, qualitative methods are often, though not exclusively, deployed in the discovery phase of the research process (Johnson & Onwuegbuzie, 2004). In that phase, the capacity for qualitative techniques to provide a ''thick'' description allows for the identification and conceptualization of phenomena; if those phenomena are not yet identified or clearly conceptualized, valid quantitative measures would not exist.

Questioning what might constitute a feminist method, Harding (1987) argued that method (i.e., techniques for gathering evidence), methodology (i.e., a theory and analysis of how research should proceed), and epistemological issues (i.e., issues about a theory of knowledge) are often intertwined. In her critical examination of the call for a feminist method, Riger (1992) pointed out a shortcoming of quantitative methods in the study of psychological gender differences, ''Although standardized scales might tell us what women have in common with men, they will not reveal the way women would define their own experiences if given the opportunity to do so'' (p. 733). Since Riger's writing, feminist researchers have developed a number of scales designed to quantitatively capture girls' and women's experiences, such as the Objectified Body Consciousness Scale (McKinley & Hyde, 1996), which was developed to reflect girls' and women's internalization of experiences of being objectified by others, by the media, and by the culture as a whole.

Nonetheless, Riger's argument can be extended to the study of intersectionality: Quantitative measures could tell us about similarities among individuals at different locations of an intersection, even though the capacity to tell us how those individuals differ in their definition or characterization of their own experiences would be somewhat limited without the inclusion of qualitative data. Researchers also could pursue qualitative inquiry with the inclusion of quantitative methods (i.e., mixed methods). A variety of quantitative techniques might be used to explore the similar or differing structures of the psychological constructs across the intersectional locations; similarly, new quantitative measures of those constructs can be developed, incorporating knowledge from the qualitative data gathered. In so doing, quantitative methods can shed light on how groups of people are both similar and different and can also reveal how or why those similarities and differences develop across contexts and time and are linked to measurable outcomes. In sum, we recommend that both quantitative and qualitative methods be used throughout the research process, as in mixed methods, insofar as they have different strengths (and limitations), which can complement one another and provide a richer, fuller characterization of psychological phenomena.

Intersectionality challenges traditional methods of knowledge production (e.g., Cho et al., 2013). Does that imply that it challenges all mainstream or quantitative research, with the implication that quantitative knowledge production is worthless and should be rejected? We argue that it is possible and productive to challenge quantitative research from within the quantitative tradition and that intersectionality can enrich and develop traditional or mainstream psychology. This involves two projects. One is through intersectional criticism of traditional quantitative psychological research. For example, a paper that focuses on psychological gender differences could be criticized for ignoring ethnic and cross-national variations in those gender differences. The other involves producing excellent intersectional quantitative research that demonstrates a better way of conducting quantitative research.

As Peplau and Conrad (1989) noted, any method can be used in a sexist manner, and any method can be shaped in feminist directions. Likewise, there is no particular research method or technique that guarantees earnest, meaningful, and critical attention to power or privilege (Sprague, 2005). Quantitative methods can be implemented from a social constructionist or standpoint epistemology, even as some qualitative research is clearly grounded in positivism (Sprague, 2005). We maintain that intersectionality may be best suited to standpoint epistemology because it emphasizes both the role of power and privilege in the process of knowing and the creation of knowledge from multiple vantage points. Yet, we also can imagine meaningful intersectional work within feminist empiricist and social constructionist epistemologies. Across these epistemologies within which an intersectional approach can be taken, quantitative and qualitative methods each have valuable, though different, places at the table.

Challenges and Possibilities of Using Quantitative Methods With an Intersectional Approach

We contend that an intersectional approach can and should be used with rigorous quantitative methods in order to deepen and expand the psychology of women. To that end, we describe several challenges and possibilities that arise when linking quantitative methods and intersectionality. Our fundamental objective is to expand the incorporation of intersectionality in empirical research in psychology and not to provide exhaustive critiques of the use of quantitative methods within an intersectional framework. Thus, we call

attention to challenges that may inhibit or compromise the application of an intersectional approach used with quantitative methods. We first clarify the distinctions among additive approaches and additive effects, maintaining that a broad intersectional approach includes additive, multiplicative, and intersectional effects. We discuss the tendency for intersectionality to be considered a content specialization in women of color. We discuss the importance of studying both power and privilege, as well as disadvantage and marginalization, and similarity as well as difference. We elaborate on the tension between the fluidity and social construction of social categories and the tendency to categorize and create logical dichotomies. We also consider how excessive abstraction can lead scholars to strip context from scrutiny and commit the error of overgeneralization.

Additive, multiplicative, and intersectional effects. Additive analytic approaches, which consider social categories as entirely independent, distinct, and mutually exclusive, are antithetical to intersectionality and violate its assumptions. Additive approaches have led some to caution that intersectionality has been misconstrued as "pop-bead metaphysics" (Spelman, 1988) or has led to the "Oppression Olympics" (Hancock, 2007). Researchers might understand social identities as discrete and separable. For example, a lesbian might understand herself as someone who is both a woman and a sexual minority. Additive approaches might lead scholars to position some marginalized groups as more marginalized than others, such as viewing women as more oppressed than sexual minorities.

Yet, additive effects, which differ from additive approaches, are key to intersectionality. Isolating the meaning and import of each social category (e.g., as in main effects) is an important component of an intersectional approach that also includes an examination of multiplicative effects (e.g., as in interaction effects) and intersectional effects (Bowleg, 2008; Cuadraz & Uttal, 1999; Shields, 2008). Collins (2000) described how, "On certain dimensions Black women may more closely resemble Black men; on others, White women; and on still others Black women may stand apart from both groups" (p. 207). Invoking intersectionality, Collins acknowledged the possibility of additive effects but challenged additive approaches that position Black women as having a more truthful or more accurate perspective or understanding of oppression than other groups might have. She further argued that additive approaches promote ranking of oppressions and inhibit coalition-building among groups, an important component of Black feminist thought.

In a quantitative intersectional approach, an analysis of the categories of gender and sexual orientation, for example, would include an examination and comparison of additive, multiplicative, and intersectional effects. That is, these categories would be analyzed separately, as in a factorial design, such that gender may be construed as having effects that can be partitioned statistically from the effects of sexual orientation and that such effects could be additive, as in "double jeopardy" effects (e.g., Beale, 1970). A lesbian, then, could experience sexism as well as heterosexism in an additive manner. The effects of multiple group memberships could also include multiplicative effects, such that the effects of sexism might exacerbate the effects of heterosexism. The intersectional effects of belonging to both social categories within gender and sexual orientation could differ qualitatively, such that she might experience a unique form of discrimination from her intersectional location of being a lesbian. That is, intersectional effects may differ in their quality or form such that an intersectional location may give rise to distinct phenomena.

Each of these effects is meaningful, of course, and demonstrates how complex intersectional approaches can be. Yet, some have debated whether additive or double jeopardy effects—for example, whether Black women leaders are evaluated more negatively than Black men and White women leaders (Rosette & Livingston, 2012)—are consistent with intersectionality. We maintain that an intersectionality approach can include examination of additive effects, multiplicative effects, and intersectional effects. This position is consistent with Shields (2008), Warner (2008), and Bowleg (2008), who each advocated a "both/and strategy" to intersectional approaches, such that researchers should examine additive, multiplicative, and intersectional effects.

A broad intersectional approach, one that is not limited to intersectional effects and allows for additive effects and multiplicative effects as well, is an opportunity for the psychology of women to expand as well as deepen. Adoption of a broad intersectional approach reframes questions and inspires new questions and new lines of research. Examining and comparing the range of effects possible within an intersectional approach will foster a deeper understanding of the nuanced ways in which social categories are systematically interlocked and linked to power. In turn, this approach will ultimately promote critical empirical research and foster change in the mainstream of psychological research, which can give voice to those who are marginalized and foster empowerment. Moreover, when this approach engages both quantitative and qualitative methods, its reach will be further.

Content specialization and overemphasis on difference. Originating in Black feminism and critical race theory, intersectionality has sometimes been considered to confer a "content specialization" (Hancock, 2007) in the experiences of those who are multiply oppressed, especially women of color. That is, much of the empirical psychological research incorporating an intersectional approach has focused on women of color (Warner, 2008). Given that the first application of the term focused on Black women and the ways in which they are marginalized or made invisible (Crenshaw, 1989), this is not surprising. In addition, some intersectionality scholars have argued that intersectionality should focus on women of color,

describing the expansion of intersectionality scholarship to the study of privileged groups as ''colonization'' (Alexander-Floyd, 2012). Historically, research samples and the study of psychological phenomena have been centered on men (e.g., McHugh, Koeske, & Frieze, 1986). Recognition of this bias helped to cultivate feminist psychology and the study of the psychology of women. Yet, we maintain that construing intersectionality as the study of women of color is also a narrow framing that is ultimately counterproductive in that it systematically emphasizes the normativity of the privileged (especially White men), reifies the position of women of color as ''Other,'' and overemphasizes differences between groups.

Insofar as attention to inequality and power is a necessary component of an intersectional approach, researchers must not neglect the study of privilege. This is consistent with the concept of ''studying up'' (Nader, 1969) to understand the psychology of the powerful. Indeed, the study of White heteronormative masculinity and the institutions that support it is ripe for intersectional analysis (e.g., Kimmel, 2013; Pascoe, 2007). A focus on marginalized groups may serve to avoid critical examination of the social structures and processes that construct, maintain, and perpetuate inequality. Understanding how power and privilege are embedded in social categories and how privilege in one or more of those categories can shape psychological phenomena is vital to an intersectional approach. Similarly, while a primary goal of intersectional approaches has long been to ''give voice'' to those who are multiply marginalized, doing so can serve to overemphasize the differences among intersectional locations (Choo & Ferree, 2010). Thus, researchers should aim to be mindful of similarities across intersectional locations (Cole, 2009), avoiding the bias toward identifying difference that is inherent in hypothesis testing.

In sum, concerns have been raised about intersectionality becoming a content specialization limited to women of color and about intersectionality scholars overemphasizing difference. However, we believe that neither of these concerns is inherent to intersectionality, nor are they specific to quantitative (or qualitative) methods. Acknowledging these challenges, we suggest that, moving forward, researchers use intersectional approaches to study privilege and power, not only disadvantage and oppression, and that commonalities and similarities among intersectional locations be explored more earnestly.

Fluidity and social construction of social categories. Our working definition of intersectionality specifies the assumption that membership in multiple social categories, and the significance or salience of those categories, may be fluid and dynamic. Some scholars have argued that intersectionality research has not sufficiently attended to the fluidity of identities and that an intersectional approach should consider more critically how identities (of others and oneself) are fluid and shifting (Warner & Shields, 2013). McCall's (2005) anticategorical approach can be applied here because it challenges the construction and boundaries of categories. Diamond's (2005, 2008) research with sexual minority women has found that aspects of women's sexuality are often fluid and variable over time, such that women's identities as lesbian or nonlesbian, as well as their sexual and romantic attractions and behaviors with men and women, demonstrate fluctuations across a decade. One implication of Diamond's findings is that intersectional researchers should question assumptions about the temporal and contextual stability of social categories and identities. As a second example, Kaschak (2013) described the experience of her Costa Rican friends who, when they are in the United States, are considered people of color, yet in Costa Rica are considered White. If some aspects of a woman's identity are fluid and shifting, then her location at relevant intersections will not be fixed. In addition, the meaning ascribed by the woman to specific categories and intersectional locations may change over time and across situations. The implications of this dynamism vary across content areas of research and should always be kept in mind when theorizing and designing research.

The human brain has a strong tendency to categorize stimuli and phenomena in order to simplify them and to make sense of a constantly changing and potentially overwhelming social world (Allport, 1954; Fiske, 1998). Yet that tendency erases much of the nuance and complexity in these phenomena. Moreover, insofar as power and stereotyping are mutually reinforcing (Fiske, 1993), social categories are often defined or imposed by the most powerful groups. In this way, the social construction of categories and their use in research can be problematic. Exploring the problematic nature of socially constructed categories and asking who is included within a category and why specific categories are constructed are important intersectional topics.

In addition, categorization and grouping of people can lead to the construction of a logical dichotomy, in which we understand phenomena by constructing categories in opposition to one another, as mutually exclusive and exhaustive (Sprague, 2005). In the case of social categorization, such logical dichotomies are a potential threat to social justice and equity because we may position groups of people in opposition to one another. For example, we may dichotomize gender based on external physical characteristics and conceptualize males and females as opposites. We then use that dichotomy to understand and organize our perceptions and ''knowledge'' about those categories (Bem, 1981, 1993), thereby assuming that all other characteristics (e.g., personality traits and intellectual aptitude) within them are also oppositional. Such a dichotomy can obscure the ways in which one category maintains power over the other category and serves to fortify those power differences.

Consider the research of Penner and Saperstein (2008) on racial classification and self-identification, in which longitudinal data were used to demonstrate how perceptions of race are linked to social status. Participants who were poor,

unemployed, or incarcerated were more likely to be perceived and to identify as Black and less likely to be perceived and to identify as White, regardless of how they had been classified in the past. Thus, even racial group membership, which is most often framed as fixed and immutable, can be understood and conceptualized as a socially constructed and fluid variable, changing over time and across situations or contexts. Although we discuss social categories in this article, we do not assume that such categories are inherent, fixed, or ''true.'' Moreover, we highlight the exploration of the fluidity and social construction of social identities as an important direction for intersectionality research and caution researchers against assuming the temporal and situational stability of social categories and their salience or significance.

Excessive abstraction and the error of overgeneralization. Quantitative methods have long been criticized on the grounds that they strip context from psychological phenomena (e.g., Guba & Lincoln, 1994). Such a limitation is, in fact, not inherent to quantitative methods per se, but to any research method that fails to incorporate or analyze context. Stripping context can be a product of excessive abstraction and can lead to the error of overgeneralization. For example, much research about gender differences in math achievement has examined gender outside of social context; in turn, mean gender differences have been overgeneralized and even essentialized, such as when then-Harvard President Lawrence Summers stated in 2005 that women lack the mathematical ability to succeed at the highest levels of mathematics and science. Yet, when context is considered, as in studies finding that nation-level gender equity predicts the magnitude of gender differences in math achievement (Else-Quest, Hyde, & Linn, 2010), important nuances and complexities are revealed, and a deeper understanding of gender is gained. When phenomena or constructs are excessively abstracted, we lose sight of their context and meaning and may overgeneralize our findings to different contexts (Sprague, 2005). Excessive abstraction can promote the reification of concepts and social categories, such that we assume essentiality and homogeneity of those categories.

Some level of abstraction is always necessary in psychological research methods; indeed, this abstraction has been integral to the development and advancement of psychology as a science. Quantitative researchers may design survey instruments that capture constructs, obtain measurements, specify and test models, and interpret direct and indirect effects. Statistical analyses such as analysis of variance and multiple regression involve partitioning or explaining variance. This level of abstraction is necessary, but some level of concretization must also occur in order to bring our research back into context. That is, our data must ''come back from that abstract journey,'' such that we translate the implications of our findings into concrete and contextualized terms (Sprague, 2005, p. 22).

Quantitative methods and experimental methods, especially within social psychology, have achieved much in documenting the importance of context and identifying aspects of context that are especially important. Lightdale and Prentice (1994) demonstrated in a laboratory experiment the impact of gender roles on individuals' aggressive behavior. The experimenters compared the number of computer-simulated bombs dropped by female and male participants in deindividuated and individuated conditions. In the individuated condition, men dropped more bombs; in the deindividuated condition, by contrast, such gender differences in aggressive behavior were eliminated. In other words, changing the social context demonstrated that the importance of gender roles in shaping behavior varies across contexts.

Concerns about excessive abstraction are critical to the application of intersectionality with quantitative methods because of the potential for decontextualization. As context is fundamental to intersectionality, we caution quantitative researchers seeking to apply an intersectional approach to be mindful of the need for context at all stages of their research. Researchers using an intersectional approach should interpret results within the context of social, historical, and structural inequality. Similarly, as researchers analyze social categories, they should attend to systematic variations among members of those categories. If homogeneity within social categories is assumed, researchers may make faulty assumptions about the prototypical member of those categories, who is often privileged (e.g., Purdie-Vaughns & Eibach, 2008; Sesko & Biernat, 2010). An assumption of homogeneity inevitably threatens external validity and leads to the error of overgeneralization. An intersectional approach can be used to correct that error and produce more meaningful research.

Which Questions, Which Methods, and Which Methods for Which Questions?

We contend that quantitative methods can be used within an intersectional approach. Cho et al. (2013) noted that intersectionality has ''traveled'' around the globe and across disciplines. Proposing intersectionality as a field of study, they contended that

> ... the widening scope of intersectional scholarship and praxis has not only clarified intersectionality's capacities; it has also amplified its generative focus as an analytical tool to capture and engage contextual dynamics of power .... Intersectionality has, since the beginning, been posed more as a nodal point than as a closed system. (p. 788)

It seems clear that Cho and colleagues (2013) believe that expansion of intersectionality is a good thing. We believe the expansion to quantitative methods in psychology is one more instance of intersectionality ''traveling.'' Cho and colleagues described the interdisciplinary development of

intersectionality as comprising both a centripetal process—disciplines moving inward, toward, or adapting to intersectionality—and a centrifugal process—intersectionality moving outward and being adapted by other disciplines. Through both processes, disciplinary conventions and intersectionality alike are challenged, expanded, and clarified. Yet, particularly with the centrifugal process, there remain threats that intersectionality will be claimed or applied inappropriately that its integrity will be put at risk. As a discipline begins to integrate intersectionality, intersectionality may evolve in ways that remarginalize historically oppressed groups (May, 2015). We must be mindful of this possibility, as intersectional approaches are expanded within psychology.

It is important to have clarity on which intersectional research questions can be examined with quantitative methods. We believe that intersectionality can transform or reframe most questions in psychology because the approach calls into question the construction and nature of social categories and shifts attention toward identifying and understanding mechanisms by which inequalities may be expressed. Intersectional research questions can be drawn from the three common assumptions of intersectionality that we describe in this article. The assumptions require us to examine our definitions or characterizations of social categories and how they are constructed and maintained. For example, if sexual orientation is fluid, how do we incorporate that knowledge into behavior genetics research examining heritability of sexual orientation? Attending to the fluid and dynamic nature of social categories necessarily requires, at the very least, that researchers question assumptions about those categories and constituent members. For example, if ethnic group membership is made salient in certain contexts, how can it best be measured? What are the implications of that fluidity for the development of ethnic identity? The salience and fluidity of multiple social categories are important topics to explore via intersectionality. With regard to the interconnectedness of multiple social categories, how is the experience of one social category (e.g., sexual orientation) shaped by the experience of another social category (e.g., ethnicity)? Understanding how power is embedded within social categories that are themselves rooted in social structures recasts questions about psychological development. For example, if gendered forms of violence and victimization are perpetuated by cultural institutions that enforce heteronormative roles, how do we foster nonviolence and empathy among boys and men? Similarly, how does the context of social class shape gender development and norms about femininity and masculinity? Multiple levels of analysis are crucial to understanding how the personal and political are linked. As we have argued here, both quantitative and qualitative techniques can be useful tools for addressing each of these types of questions.

Building upon Cole's intersectional questions. We also can build upon the foundation of Cole's (2009) intersectional questions and expand how they might be implemented at each stage of the research. While Cole made clear that no one method or technique is prescribed or proscribed by intersectionality, she argued that adopting an intersectional approach requires a conceptual shift in thinking about social categories. To do so, she proposed three intersectional questions for each stage of the research process. The first question, ''Who is included within this category?'' speaks to the heterogeneity within social categories and is consistent with other calls for an intersectional analysis of within-group heterogeneity (e.g., Parent, DeBlaere, & Moradi, 2013; Stewart & McDermott, 2004). Cole's first question also echoes McCall's (2005) intracategorical complexity approach. Cole proposed that one might ask who is included, for example, at the sampling stage by sampling from frequently neglected groups. Consider how quantitative investigations of gender differences and similarities have often relied on White participants and samples from WEIRD (Western Educated Industrialized Rich Democratic) societies (Henrich, Heine, & Norenzayan, 2010; see also Arnett, 2008), giving a biased perspective on gender. Sampling an ethnically diverse or cross-nationally diverse group of individuals could foster a conceptual shift in how gender is constructed in a research study because it goes beyond conceptualizing gender as White or European. Similarly, at the stage of operationalization, quantitative measures might be developed from the perspectives of frequently neglected groups. Mixed-methods could offer a particularly rich approach here by gathering a thick description and then quantifying key themes and elements of the experiences or definitions offered by participants. Researchers might also assess within-group heterogeneity and differences among subgroups to explore subcultural variations.

Related to the issue of within-group heterogeneity is the question of which populations qualify for intersectional research? Should it apply only to marginalized groups, such as Black women or gay men of color? For answers, we refer back to our discussion of intersectionality becoming a content specialization, and also return to McCall's (2005) distinction between intracategorical and intercategorical approaches. An intracategorical approach might study a marginalized group, such as Latinas, while still recognizing the heterogeneity of that category with regard to other social categories. Applying an intercategorical approach, a researcher might study Latinas and Latinos, identifying the complex differences and similarities between the groups, including differences in power and privilege that stem from ethnicity, gender, class, and nativity. We view either of these approaches as potentially legitimate applications of intersectionality, noting that each can get at somewhat different questions. In addition, intersectionality may be used as a guide to choosing which populations, groups, or social categories to compare and where alliances may be developed, such that commonalities may be identified.

Some have raised concerns that comparisons, such as the comparison of women of color and White women, and, more generally, the mainstreaming of intersectionality will remarginalize already marginalized people, ''disappearing'' their

voices and knowledge (Alexander-Floyd, 2012). This is a legitimate concern. But we believe that there is merit in intercategorical approaches, such as a comparison of Black women and White women, because they can highlight when and how power and privilege play a role. In addition, an exclusive focus on marginalized groups may contribute to their marginalization and "othering" by positioning them in relation to privileged groups, which are maintained as the norm or standard (e.g., Carbado, 2013).

Speaking to the importance of examining power and privilege, Cole's second question, "What role does inequality play?" moves beyond individual-level analysis to incorporate an understanding of structural, cultural, and historical contexts and forces. For example, at the stage of hypothesis generation, the review of literature might focus attention on the social and historical contexts of inequality for the social categories; studies of lesbian parenting might attend to the history of heterosexist discrimination and exclusion within various social systems, such as day care and school settings as well as laws regarding adoption and marriage. This strategy is applicable in both quantitative and qualitative investigations. At the levels of operationalization and analysis, Cole advised that, when researchers examine the role of inequality, they should test for similarities as well as differences and conceptualize both as being rooted in structural inequality rather than personal or individual characteristics.

Cole's third question, "Where are the similarities?" offers the idea that, despite apparently deep differences between groups at different locations of an intersection, an intersectional approach requires that we look for similarities. Diverse groups of individuals may have many commonalities, but we are sometimes blind to that possibility because of a fixation on rigid, essentialist categories. Likewise, Collins (2001) maintained, "The absence of an identifiable tradition uniting women does not mean that women are characterized more by differences than by similarities" (p. 162). For example, at the stage of sampling, the groups that are studied might be connected because they share some common experience or relationship, despite apparent differences. One example of this is in the conceptualization of groups such as "women of color," in which we group women of African, Caribbean, Latin American, American Indian, and (sometimes) Asian descent. In some instances, such grouping is inappropriate and levels real differences across such diverse groups of women, but in other instances, it can be a technique that reflects racial and ethnic disadvantage and an absence of White privilege, or a "common context of struggle" (Mohanty, 2003).

Researchers can ask the third question at the operationalization and analysis stages by presenting social categories as more than characteristics of individuals and by expanding our focus on differences to include examination of similarities. Syed (2010) argued that qualitative methods are "central" to intersectional approaches and particularly well-suited to the intersectional question of similarities. Historically, quantitative methods have been rooted in a positivist preoccupation with difference and a tendency toward alpha bias (the detection of difference when there is none). This fixation on mean differences often belies tremendous overlap in distributions. However, feminist psychologists using quantitative methods have focused on similarities in recent decades, as exemplified by Hyde's (2005) gender similarities hypothesis. Some researchers using quantitative data-analytic techniques may note tensions regarding traditional statistical concerns about "accepting the null hypothesis." In establishing findings of similarities or statistically nonsignificant differences, the use of effect sizes can be helpful. Effect sizes estimate the magnitude of a difference independent of sample size, thus allaying concerns about finding similarities because of a lack of statistical power. Similarly, tests of equivalence might be used to examine similarities between groups (Ball, Cribbie, & Steele, 2013). Attending to effect sizes supports Cole's suggestion that her third question can be addressed at the stage of interpretation of findings such that "sensitivity to nuanced variations across groups is maintained even when similarities are identified" (2009, p. 172). Such quantitative techniques can help to provide a more nuanced description and interpretation of findings; indeed, this technique has been long employed by feminists studying psychological gender similarities and differences (e.g., Hyde, 2005) and can be expanded to research using an intersectional approach. In sum, the possibilities for intersectional research questions are diverse, and although they do not "test" intersectionality as a theory, they recast or reframe existing research questions and reconsider steps in the research process. Using Cole's intersectional questions and our essential elements of intersectional research as guides, we can expand the opportunities to engage quantitative methods within intersectionality.

Practice Implications

The current article aims both to deepen quantitative research through the incorporation of an intersectional approach and to develop the study of intersectionality in psychology using quantitative methods. The implications of this work for researchers as well as for educators, therapists and counselors, activists, and policy makers are broad and far-reaching. Findings from empirical research using an intersectional approach will be more meaningful and valid and, in turn, inform effective education, mental health care, and public policy.

Intersectional approaches have increasingly been employed within psychological research using quantitative methods and such research has made valuable contributions to the psychology of women canon. Yet, too often our psychology of women has been a psychology of straight, White, middle-class North American women, without attention to the power and privilege embedded in that intersectional location. An intersectional approach will develop, enhance, and enrich quantitative research and stimulate research on marginalized groups as well as help us understand the structural maintenance and individual experience of inequality. In

particular, using an intersectional approach can help to reframe our questions and agendas so that we integrate consideration of power, social context, and multiple social categories into research, education, health care, and policy. Thus, we call for researchers using quantitative methods to consider the potential of intersectionality and to use an intersectional approach whenever possible. In our companion paper (Else-Quest & Hyde, 2016), we provide information on how to do that.

Conclusions and a Call for the Application of Intersectionality in Research Using Quantitative Methods

In synthesizing the diverse and varied definitions of intersectionality emanating from multiple disciplines, we arrived at common assumptions among the definitions of intersectionality that form the basis for this article and its companion paper (Else-Quest & Hyde, 2016). Synthesizing multiple approaches to intersectionality, and drawing from our working definition, we concluded that, for research to be considered intersectional, the essential elements are that it must (1) attend to the experience and meaning of belonging to multiple social categories simultaneously, (2) include an examination of power and inequality, and (3) attend to social categories as properties of the individual as well as to the social context and consider those categories and their significance or salience as potentially fluid and dynamic. In considering whether intersectionality constitutes a theory or an approach, we concluded that it is most useful to consider it as a critical theory and approach (see Kincheloe & McLaren, 2005; Sloan, 2009). We argued that social constructionist and standpoint epistemologies are most compatible with intersectionality as a critical theory and approach, given the attention to the role of power in constructing knowledge and the socially constructed nature of social categories. In reviewing epistemologies, we echoed others' conclusions that quantitative research does not necessarily imply a positivist epistemology, in the same way that qualitative research is not always based in social constructionism. Researchers may ask intersectional research questions, while being mindful of the importance of understanding privileged intersectional locations as well as multiply marginalized positions; exploring the fluidity of social categories and the range of additive, multiplicative, and intersectional effects; and avoiding excessive abstraction and overgeneralization. Intersectionality has much to offer to research employing quantitative methods, such that intersectionality reframes old questions, inspires new questions, and challenges traditional methods of knowledge production. And, insofar as they multiply the array of tools available to researchers, quantitative methods have much to offer in revealing the full potential of intersectionality for understanding the human condition.

Echoing the argument of Cho et al. (2013) that, as intersectionality has "traveled," its scope and utility have been clarified and expanded, we understand the approach as a relevant and transformative force for all areas of psychology, and we view feminist psychology as essential to this ongoing expansion. Indeed, the generative potential of intersectionality will be realized when quantitative researchers join qualitative researchers and begin to adopt intersectional approaches. In "Intersectionality in Quantitative Psychological Research: II. Methods and Techniques," forthcoming in *Psychology of Women Quarterly* (Else-Quest & Hyde, 2016), we present researchers with guidelines for conducting this important quantitative work.

Acknowledgment

The authors are grateful for the feedback provided by Jan Yoder, Mary Brabeck, and the anonymous reviewers.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

References

Alexander-Floyd, N. G. (2012). Disappearing acts: Reclaiming intersectionality in the social sciences in a post-Black feminist era. *Feminist Formations*, *24*, 1–25. doi:10.1353/ff.2012.0003

Allport, G. W. (1954). *The nature of prejudice*. Oxford, England: Addison Wesley.

Arnett, J. J. (2008). The neglected 95%: Why American psychology needs to become less American. *American Psychologist*, *63*, 602–614. doi:10.1037/0003-066X.63.7.602

Ball, L. C., Cribbie, R. A., & Steele, J. R. (2013). Beyond gender differences: Using tests of equivalence to evaluate gender similarities. *Psychology of Women Quarterly*, *37*, 147–154. doi:10.1177/0361684313480483

Beale, F. (1970). Double jeopardy: To be Black and female. In T. Cade (Ed.), *The Black woman: An anthology* (pp. 90–100). New York, NY: New American Library.

Bem, S. L. (1981). Gender schema theory: A cognitive account of sex-typing. *Psychological Review*, *88*, 354–364.

Bem, S. L. (1993). *Lenses of gender: Transforming the debate on sexual inequality*. New Haven, CT: Yale University Press.

Berger, M. T., & Guidroz, K. (2009). *The intersectional approach: Transforming the academy through race, class, & gender*. Chapel Hill: University of North Carolina Press.

Berger, P., & Luckmann, T. (1966). *The social construction of reality: A treatise in the sociology of knowledge*. Garden City, NY: Doubleday.

Bowleg, L. (2008). When Black + lesbian + woman ≠ Black lesbian woman: The methodological challenges of qualitative and quantitative intersectionality research. *Sex Roles*, *59*, 312–325. doi:10.1007/s11199- 008-9400-z

Carbado, D. W. (2013). Colorblind intersectionality. *Signs: Journal of Women in Culture and Society*, *38*, 811–845. doi:10.1086/669666

Case, K. A., Iuzzini, J., & Hopkins, M. (2012). Systems of privilege: Intersections, awareness, and applications. *Journal of Social Issues*, *68*, 1–10. doi:10.1111/j.1540-4560.2011.01732.x

Cho, S., Crenshaw, K. W., & McCall, L. (2013). Toward a field of intersectionality studies: Theory, applications, and praxis. *Signs: Journal of Women in Culture and Society*, *38*, 785–810. doi:10.1086/669608

Choo, H. Y., & Ferree, M. M. (2010). Practicing intersectionality in sociological research: A critical analysis of inclusions, interactions, and institutions in the study of inequalities. *Sociological Theory*, *28*, 129–149. doi:10.1111/j.1467- 9558.2010.01370.x

Cole, E. R. (2009). Intersectionality and research in psychology. *American Psychologist*, *64*, 170–180. doi:10.1037/a0014564

Collins, P. H. (2000). *Black feminist thought: Knowledge, consciousness, and the politics of empowerment* (2nd ed.). New York, NY: Routledge.

Collins, P. H. (2001). Defining Black feminist thought. In P. Essed & D. T. Goldberg (Eds.), *Race critical theories: Text and context* (pp. 152–175). New York, NY: Wiley-Blackwell.

Combahee River Collective. (1982). A Black feminist statement. In G. T. Hull, P. B. Scott, & B. Smith (Eds.), *All the women are White, all the Blacks are men, but some of us are brave* (pp. 13–22). Old Westbury, NY: The Feminist Press.

Crenshaw, K. (1989). Demarginalizing the intersection of race and sex: A Black feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics. *University of Chicago Legal Forum*, *140*, 139–167.

Crenshaw, K. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review*, *43*, 1241–1299. doi:10.2307/1229039

Cuadraz, G. H., & Uttal, L. (1999). Intersectionality and in-depth interviews: Methodological strategies for analyzing race, class, and gender. *Race, Gender & Class*, *6*, 156–186.

Davis, K. (2008). Intersectionality as buzzword: A sociology of science perspective on what makes a feminist theory successful. *Feminist Theory*, *9*, 67–85. doi:10.1177/1464700108086364

DeLamater, J. D., & Hyde, J. S. (1998). Essentialism vs. social constructionism in the study of human sexuality. *Journal of Sex Research*, *35*, 10–18. doi:10.1080/00224499809551913

Diamond, L. M. (2005). A new view of lesbian subtypes: Stable versus fluid identity trajectories over an 8-year-period. *Psychology of Women Quarterly*, *29*, 119–128. doi:10.1111/j.1471-6402.2005.00174.x

Diamond, L. M. (2008). Female bisexuality from adolescence to adulthood: Results from a 10-year longitudinal study. *Developmental Psychology*, *44*, 5–14. doi:10.1037/0012-1649.44.1.5

Eagly, A. H., Eaton, A., Rose, S. M., Riger, S., & McHugh, M. C. (2012). Feminism and psychology: Analysis of a half-century of research on women and gender. *American Psychologist*, *67*, 211–230. doi:10.1037/a0027260

Else-Quest, N. M., & Hyde, J. S. (2016). Intersectionality in quantitative psychological research: II. Methods and techniques. *Psychology of Women Quarterly*. Advance online publication. doi: 10.1177/0361684316647953

Else-Quest, N. M., Hyde, J. S., & Linn, M. C. (2010). Cross-national patterns of gender differences in mathematics: A meta-analysis. *Psychological Bulletin*, *136*, 103–127. doi:10.1037/a0018053

Essed, P. (1991). *Understanding everyday racism: An interdisciplinary theory*. Newbury Park, CA: Sage

Ferree, M. M. (2010). Filling the glass: Gender perspectives on families. *Journal of Marriage and Family*, *72*, 420–439. doi:10.1111/j.1741-3737.2010.00711.x

Few-Demo, A. L. (2014). Intersectionality as the "new" critical approach in feminist family studies: Evolving racial/ethnic feminisms and critical race theories. *Journal of Family Theory & Review*, *6*, 169–183. doi:10.1111/jftr.12039

Fiske, S. T. (1993). Controlling other people: The impact of power on stereotyping. *American Psychologist*, *48*, 621–628. doi:10.1037/0003-066X.48.6.621

Fiske, S. T. (1998). Stereotyping, prejudice, and discrimination. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *Handbook of social psychology* (4th ed., Vol. 2, pp. 357–411). New York, NY: McGraw-Hill.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105–117). Thousand Oaks, CA: Sage.

Hamby, S. (2009). The gender debate about intimate partner violence: Solutions and dead ends. *Psychological Trauma: Theory, Research, Practice, and Policy*, *1*, 24–34. doi:10.1037/a0015066

Hancock, A. (2007). When multiplication doesn't equal quick addition: Examining intersectionality as a research paradigm. *Perspectives on Politics*, *6*, 63–79. doi:10.1017/S1537592707070065

Haraway, D. (1988). Situated knowledges: The science question in feminism and the privilege of partial perspective. *Feminist Studies*, *14*, 575–599.

Harding, S. (1986). *The science question in feminism*. Ithaca, NY: Cornell University Press.

Harding, S. (1987). Introduction: Is there a feminist method? In S. Harding (Ed.), *Feminism & methodology* (pp. 1–14). Bloomington: Indiana University Press.

Harding, S. (1998). *Is science multicultural? Postcolonialisms, feminisms, and epistemologies*. Bloomington: Indiana University Press.

Hare-Mustin, R. T., & Marecek, J. (1988). The meaning of difference: Gender theory, postmodernism, and psychology. *American Psychologist*, *43*, 455–464. doi:10.1037/0003-066X.43.6.455

Hawkesworth, M. E. (1989). Knowers, knowing, known: Feminist theory and claims of truth. *Signs: Journal of Women in Culture and Society*, *14*, 533–557.

Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences*, *33*, 61–135. doi:10.1017/ S0140525X0999152X

Hyde, J. S. (2005). The gender similarities hypothesis. *American Psychologist*, *60*, 581–592. doi:10.1037/0003-066X.60.6.581

Hyde, J. S. (2012). Nation-level indicators of gender equity in psychological research: Theoretical and methodological issues. *Psychology of Women Quarterly*, *36*, 145–148. doi:10.1177/0361684312441448

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, *33*, 14–26. doi:10.3102/0013189X033007014

Kaschak, E. (2013). The mattering map: Integrating the complexities of knowledge, experience, and meaning. *Psychology of Women Quarterly*, *37*, 436–443. doi:10.1177/0361684313480839

Kimmel, M. (2013). *Angry White men: American masculinity at the end of an era*. New York, NY: Nation Books.

Kincheloe, J. L., & McLaren, P. (2005). Rethinking critical theory and qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Sage handbook of qualitative research* (pp. 303–342). Thousand Oaks, CA: Sage.

Lightdale, J., & Prentice, D. A. (1994). Rethinking sex differences in aggression: Aggressive behavior in the absence of social roles. *Personality and Social Psychology Bulletin*, *20*, 34–44. doi:10.1177/0146167294201003

May, V. M. (2015). *Pursuing intersectionality, unsettling dominant imaginaries*. New York, NY: Routledge.

McCall, L. (2001). *Complex inequality: Gender, class, and race in the new economy*. New York, NY: Routledge.

McCall, L. (2005). The complexity of intersectionality. *Signs: Journal of Women in Culture and Society*, *30*, 1771–1800. doi:10.1086/426800

McHugh, M. C., Koeske, R. D., & Frieze, I. H. (1986). Issues to consider in conducting nonsexist psychological research. *American Psychologist*, *41*, 879–890.

McKinley, N. M., & Hyde, J. S. (1996). The objectified body consciousness scale: Development and validation. *Psychology of Women Quarterly*, *20*, 181–216. doi:10.1111/j1471-6402.1996.tb00467.x

Mohanty, C. T. (2003). *Feminism without borders: Decolonizing theory, practicing solidarity*. Durham, NC: Duke University Press.

Nader, L. (1969). Up the anthropologist: Perspectives gained from studying up. In D. Hymes (Ed.), *Reinventing anthropology* (pp. 285–311). New York, NY: Pantheon Books.

Nnawulezi, N., & Sullivan, C. M. (2014). Oppression within safe spaces: Exploring the presence of racial microaggressions within domestic violence shelters. *Journal of Black Psychology*, *40*, 563–591. doi:10.1177/0095798413500072

O'Brien, L. T., Blodorn, A., Adams, G., Garcia, D. M., & Hammer, E. (2015). Ethnic variation in gender-STEM stereotypes and STEM participation: An intersectional approach. *Cultural Diversity and Ethnic Minority Psychology*, *21*, 169–180. doi:10.1037/a0037944

Parent, M. C., DeBlaere, C., & Moradi, B. (2013). Approaches to research on intersectionality: Perspectives on gender, LGBT, and racial/ethnic identities. *Sex Roles*, *68*, 639–645. doi:10.1007/s11199-013-0283-2

Pascoe, C. J. (2007). *"Dude, you're a fag": Masculinity and sexuality in high school*. Berkeley: University of California Press.

Penner, A. M., & Saperstein, A. (2008). How social status shapes race. *Proceedings of the National Academy of Sciences*, *105*, 19628–19630. doi:10.1073/pnas.0805762105

Peplau, L. A., & Conrad, E. (1989). Beyond nonsexist research: The perils of feminist methods in psychology. *Psychology of Women Quarterly*, *13*, 379–400.

Popper, K. (1959). *The logic of scientific discovery*. New York, NY: Basic Books.

Purdie-Vaughns, V., & Eibach, R. P. (2008). Intersectional invisibility: The distinctive advantages and disadvantages of multiple subordinate-group identities. *Sex Roles*, *59*, 377–391. doi:10.1007/s11199-008-9424-4

Riger, S. (1992). Epistemological debates, feminist voices: Science, social values, and the study of women. *American Psychologist*, *47*, 730–740.

Rosette, A. S., & Livingston, R. W. (2012). Failure is not an option for Black women: Effects of organizational performance on leaders with single versus dual-subordinate identities. *Journal of Experimental Social Psychology*, *48*, 1162–1167. doi:10.1016/j.jesp.2012.05.002

Sesko, A. K., & Biernat, M. (2010). Prototypes of race and gender: The invisibility of Black women. *Journal of Experimental Social Psychology*, *46*, 356–360. doi:10.1016/j.jesp.2009.10.016

Settles, I. H. (2006). Use of an intersectional framework to understand Black women's racial and gender identities. *Sex Roles*, *54*, 589–601. doi:10.1007/s11199-006-9029-8

Shields, S. A. (2008). Gender: An intersectionality perspective. *Sex Roles*, *59*, 301–311. doi:10.1007/s11199-008-9501-8

Sloan, T. (2009). Doing theory. In D. Fox, I. Prilleltensky, & S. Austin (Eds.), *Critical psychology: An introduction* (pp. 319–334). Thousand Oaks, CA: Sage.

Spelman, E. (1988). *Inessential woman: Problems of exclusion in feminist thought*. Boston, MA: Beacon Press.

Spierings, N. (2012). The inclusion of quantitative techniques and diversity in the mainstream of feminist research. *European Journal of Women's Studies*, *19*, 331–347. doi:10.1177/1350506812443621

Sprague, J. (2001). Structured knowledges and strategic methodologies: Comment on Walby's "Against epistemological chasms: The science question in feminism revisited." *Signs: Journal of Women in Culture and Society*, *26*, 527–536.

Sprague, J. (2005). *Feminist methodologies for critical researchers: Bridging differences*. Walnut Creek, CA: AltaMira Press.

Stewart, A. J., & McDermott, C. (2004). Gender in psychology. *Annual Review of Psychology*, *55*, 519–544. doi:10.1146/annurev.psych.55.090902.141537

Straus, M. A. (2008). Dominance and symmetry in partner violence by male and female university students in 32 nations. *Children and Youth Services Review*, *30*, 252–275. doi:1016/j.childyouth.2007.10.004

Syed, M. (2010). Disciplinarity and methodology in intersectionality theory and research. *American Psychologist*, *65*, 61–62. doi:10.1037/a0017495

Walby, S., Armstrong, J., & Strid, S. (2012). Intersectionality: Multiple inequalities in social theory. *Sociology*, *46*, 224–240. doi:10.1177/0038038511416164

Warner, L. R. (2008). A best practices guide to intersectional approaches in psychological research. *Sex Roles*, *59*, 454–463. doi:10.1007/s11199-008-9504-5

Warner, L. R., & Shields, S. A. (2013). The intersections of sexuality, gender, and race: Identity research at the crossroads. *Sex Roles*, *68*, 803–810. doi:10.1007/s11199-013-0281-4

Watzlawick, P. (1984). *The invented reality: Contributions to constructivism*. New York, NY: Norton.

West, C., & Zimmerman, D. (1987). Doing gender. *Gender and Society*, *1*, 125–151.

Wittig, M. A. (1985). Metatheoretical dilemmas in the psychology of gender. *American Psychologist*, *40*, 800–811.