

The Implications of Sex Differences on Volunteer Preferences

Walter Wymer

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Abstract This study explores the relationship between sex differences and preferences for volunteer roles, organizations, and supervision. A series of hypotheses were developed from prior research on sex differences from the fields of biology, neuroscience, and psychology to determine whether such preferences can be predicted. An online survey panel of over 700 individuals comprised the sample. Many of the hypotheses were supported. Implications of the findings on future research and on volunteer recruitment and retention are discussed.

Résumé Cette étude explore les relations qui existent entre les différences de sexe et les préférences concernant les rôles de bénévolat, les organisations et la supervision. Une série d'hypothèses a émergé d'une étude précédente concernant les différences de sexe dans les domaines de la biologie, des neurosciences et de la psychologie, menée afin de déterminer si de telles préférences peuvent être prédites. L'enquête en ligne a été faite auprès d'un échantillon de 700 individus. Nombre de ces hypothèses ont été vérifiées. Nous discutons des conséquences de ces découvertes sur les études à venir ainsi que sur le recrutement et la fidélité des bénévoles.

Zusammenfassung Diese Studie untersucht die Beziehung zwischen der Geschlechtszugehörigkeit und den Präferenzen hinsichtlich ehrenamtlicher Funktionen, Organisationen und Aufsichtsfunktionen. Beruhend auf früheren Forschungen zu geschlechtsspezifischen Unterschieden in den Bereichen Biologie, Neurowissenschaft und Psychologie wurde eine Reihe von Hypothesen entwickelt, um zu ermitteln, ob derartige Präferenzen vorausgesagt werden können. Eine Online-Befragung von über 700 Personen diente als Probe. Viele der Hypothesen bestätigten sich. Implikationen der Ergebnisse für zukünftige Forschungen und die Einstellung sowie Erhaltung ehrenamtlicher Mitarbeiter werden diskutiert.

W. Wymer (✉)

Faculty of Management, University of Lethbridge, Lethbridge, AB, Canada
e-mail: walter.wymer@uleth.ca

Resumen En el presente estudio se analiza la relación existente entre el sexo y las preferencias por algunas funciones, organizaciones y supervisión de voluntariado. Anteriores estudios formularon una serie de hipótesis sobre las diferencias de sexo en los campos de la biología, la neurociencia y la psicología, con el fin de determinar si era posible predecir este tipo de preferencias. En la muestra se utilizaron 700 personas que participaron en una encuesta en línea y muchas de las hipótesis se confirmaron. Se debaten asimismo las implicaciones de los resultados sobre las futuras investigaciones y sobre el reclutamiento y la retención de voluntarios.

Keywords Volunteering · Gender differences · Sex differences · Volunteer preferences

Introduction

Several facets of volunteer research have received attention, ranging from the valuation of volunteer (Hustinx 2007) to the benefits of volunteering for the elderly (Haski-Leventhal 2009). One topic that has been explored, which is of special interest is gender differences in volunteering (Febbraro 1997; Wymer and Samu 2002).

In general, females tend to volunteer in greater numbers than do males (Wymer 1996; Wymer et al. 1996). In a study of over 60,000 Americans, females reported volunteering in greater numbers than males across all the age groups (Bureau of Labor Statistics 2008). There are other gender differences with respect to the amount of time volunteering, the frequency of volunteering, motives for volunteering, interest in volunteering, the nature of the volunteer organization, and volunteer commitment (Mesch et al. 2006; Wymer and Samu 2002). Women donate more money to charities than do men, women volunteer in greater numbers than do men, and women differ in their preferences for type of nonprofit organization for which they provide their volunteer service, and men and women differ in their motivations for volunteering (Febbraro 1997).

The purpose of this article is to improve our knowledge of sex differences with respect to volunteering using knowledge gained about sex differences from the neurobiological and neuropsychological fields to generate and test a series of hypotheses that predict sex differences for a variety of volunteering preferences.

Scope of Study

This study is interested in adding to our understanding of sex differences with respect to volunteering. When the term sex or gender is used in this article, it refers to the biological sex categories of male and female (Udry 1994). Gender is not used in this study to refer to socially constructed roles. The term volunteering is used to refer to formal volunteering, which refers to freely giving of one's labor and time without monetary compensation to a nonprofit organization (Cnaan and Amrofell 1994). This study's scope does not extend to informal helping behavior (Cnaan et al. 1996).

Conceptual Background

In his review of the literature on voluntary association participation, David Smith noted that most studies were too narrow in the kinds of variables they used to explain voluntary participation (Smith 1994). Consequently, the explanatory power of research findings is reduced. Volunteering is a complex, multidimensional human behavior. Our knowledge of volunteering is improved by broadening our use of concepts from other disciplines.

Historically, the primary theoretical frameworks used to explain volunteering came from sociology, economics, and psychology. A sociological explanation of volunteering relied on a dominant status framework (Lemon et al. 1972) or a social learning model (Bandura 1969). An economic explanation of volunteering used activity theory to portray volunteering as a substitute for paid work (Chambré 1993; Chambre 1984; Stephan 1991). Other economic accounts of volunteering portray volunteering as a type of work requiring resources of human capital and social capital (Einolf 2010; Wilson 2000a, b; Wilson and Musick 1997, 1998, 1999) or an alternative to paid employment (Hayghe 1991). Psychologists have added to our understanding of volunteering by attempting to understand the personalities of volunteers (Finkelstein et al. 2005; Penner 2002; Penner et al. 2005; Penner and Finkelstein 1998). Individual personality variables have also been examined. Research on personality traits of volunteers primarily found that volunteers tend to be more empathetic than non-volunteers (Davis et al. 1999; Wymer 1996; Wymer et al. 1996). Attitudes have also been used to help explain volunteering (Janoski et al. 1998; Lammers 1991; Snyder et al. 2000).

With respect to gender differences in volunteering, the predominant conceptual approach to understand this area of inquiry used a social learning framework. According to social learning theory, behavior is learned by modeling and reinforcement. The basic explanation is that individuals observe gender role models and imitate these models. Gender appropriate behavior is positively reinforced in society, and gender inappropriate behavior is negatively reinforced or punished in society (Eagly 1987, 2009; Golombok and Fivush 1994). Hence, females are taught to be more nurturing and, therefore, are more likely to volunteer where they can help others (Wuthnow 1993, 1994).

Historically, gender differences in volunteering were viewed as a social construction (Chodorow 1999; Gilligan 1982; Hustinx and Lammertyn 2003; Wymer and Self 1999). However, the evidence that biological influences on gender differences cannot be excluded has become prevalent (Cooke et al. 1999; Filipek et al. 1994; Gurian et al. 2001; Gurian and Stevens 2004; Kelly et al. 1999; Kimura 1996, 2000; Rhoads 2004; Schlaepfer et al. 1995; Udry 1994, 2000; Udry et al. 1995; Woodson and Gorski 2000). The scholarly literature does not support a purely social construction of gender differences in volunteering, but instead supports a more complicated explanation that includes the interaction of both biological and social influences (Eagly 2009; Eagly and Koenig 2006; Fausto-Sterling 1987a, b, 2004; Gurian et al. 2001; Gurian and Stevens 2004; Rossi 1985; West and Zimmerman 1987). Social influences interact with and reinforce sex-differentiated behaviors and influence them throughout a lifetime (Baron-Cohen 2003; Hines 2005; Rhoads 2004).

Investigations on biological influences of gender differences in volunteering will improve our overall knowledge in this area (Wymer 2007) and increase the explanatory power of our theoretical constructions (Smith 1994). Research during the last 15 years in sub-disciplines of biology, psychology, endocrinology, and especially neuroscience has greatly increased our understanding of sex differences (Baron-Cohen 2003; Brizendine 2006, 2010; Kimura 2000, 2002; Sax and Todd 2005). Unfortunately, little research on volunteering has been informed by our increasing knowledge of biological influences on behavior.

This study will rely on prior research in these other disciplines, which are based largely on biological sex difference research, to produce a series of testable hypotheses on sex differences in preferences for various aspects of volunteering. A study will then be described which tests the hypotheses.

Brain Structure and Brain Function

The sculpting of the brain in utero by hormonal influences and resulting morphological (structural) differences between males and females are widely documented in the scientific literature (Cahill 2005; Sabbatini 1997; Tyre and Scelfo 2006; Wizemann and Pardue 2001). The purpose of this study is to propose how sex differences may provide insights to researchers interested in gender differences in volunteering. Therefore, the following discussion shall focus upon functional differences derived from sexual structural differences. Some examples of these functional differences are that females tend to be higher in empathy, verbal skills, social skills, and security-seeking while males tend to be higher in independence, dominance, spatial skills, and rank-related aggression (Wilson 2000a, b). The following organization of this study will present sexual functional differences and their potential implications on volunteering preferences. A series of hypotheses will be embedded into the following discussion to stimulate further research into this promising area of inquiry.

Systemizing and Empathizing

The female brain is organized for empathy. The male brain is organized for understanding and building systems (Baron-Cohen 2003, 2005). Empathizing is the drive to identify another person's emotions and thoughts, and to respond to them with an appropriate emotion. Baby girls, as young as 12 months old, respond more empathetically to the distress of other people than boys. Women also show more comforting behavior than men (Baron-Cohen 2003, 2005; Zahn-Waxler et al. 1992).

There are two components of empathy: the cognitive component and the affective component. The cognitive component of empathy deals with understanding another person's feelings and being able to take their perspective. The affective component of empathy deals with controlling the observer's appropriate emotional response to another person's emotional state (Baron-Cohen 2003, 2005).

Systemizing is the drive to analyze, explore, and construct a system. The systemizer intuitively figures out how things work, or extracts the underlying rules that govern the behavior of a system (Baron-Cohen 2003). Not all males have the

typical male brain type. Not all females have the typical female brain type (Baron-Cohen 2003, 2005; Moir and Jessel 1991).

Females tend to be better at discerning when it is appropriate to suppress the expression of an emotion to avoid hurting someone else's feelings. Females have been found to be better at judging emotion from facial expressions than males, in different types of tests and with subjects in different cultures (Kimura 2000, 2002). In terms of valuing social relationships, females tend to value altruistic, reciprocal, and supportive relationships. Males tend to value power, politics, competition, and affirmation of their social status (Baron-Cohen 2003).

H1: Since females tend to have greater empathy than males, they are more likely to prefer to support organizations that help needy people.

Stress, Aggression, and Risk-Taking

As a result of testosterone exposure in utero, the orbital frontal cortices are larger in males than in females (Gur et al. 2002). This brain region is known to be connected with aggressive behavior (Stein 2002). Males tend to be more aggressive across cultures (Hines 2005). Males are more physically aggressive than females because they are less able to control those impulses resulting from anger (Campbell 2002). The amygdala, a part of the brain that responds to emotionally arousing information, tends to be larger in males than in females (Cahill et al. 2001, 2002). The orbitofrontal cortex, a region of the brain associated with regulating emotions, tends to be larger in females than in males (Cahill 2005). Male brains are structured to react more to emotional-evoking stimuli (increased adrenalin), while males are less able to process and monitor emotions (smaller orbitofrontal cortex), and, with much higher testosterone levels, are more likely to respond physically and aggressively to the evoked stress. This is not to suggest that males cannot control their behavior, but that it requires more effort because males have a greater tendency toward aggression and impulsivity (Brizendine 2010).

While the negative effects of a male brain structure and proportionally high (compared to females) levels of testosterone are apparent by such characteristics as aggression and impulsivity, there are also positive effects. For example, males respond to stress differently than females. Females' response to stress is directed by the parasympathetic system which causes unpleasant, nauseated feelings (Sax and Todd 2005). Different levels of estrogen, cortisol and dopamine may cause females to be more stressed by emotional conflict than males (Brizendine 2006). Males' response to stress is directed from the sympathetic system, giving a "thrill" feeling (Sax and Todd 2005). Males take greater risks than females (Byrnes et al. 1999; Powell and Ansic 1997). They take even more risks in the presence of other males (Wilson and Daly 1985). Boys are more likely to do something dangerous in the presence of other boys (Sax and Todd 2005). Boys like challenges from their peers and seek them out (Baucom et al. 1985; Maccoby 1999). Boys are much more likely to be injured than girls (Rivara et al. 1982). Of child pedestrians killed or injured on the roads, boys outnumber girls by two to one (Pease and Pease 2001).

Males tend to enjoy risk taking more than females. Males tend to find the thrill of risk-taking pleasurable; females may not. For males, danger can be exhilarating. For females, danger is often fearful (Sax and Todd 2005). Males are more likely than females to assume risk, especially physical risk (Rhoads 2004). Levels of testosterone are correlated with fearlessness (Navarro 2001). Males prefer and respond well to difficult challenges (Browne 1995). Males are more likely than females to risk their lives to rescue others (Johnson 1996; Morin 1997).

H2: Males are more likely than females to prefer volunteer roles that assume some level of risk-taking and danger.

Infants and Children

Compared to males, females tend to be more motivated to reproduce (Hrdy 1999; Rhoads 2004). Reproducing refers to the conception and parenting of a child. Numerous studies have found that females are more attracted to infants and children, they are more motivated to spend time caring for infants and children, and they are more likely to feel that infants and children are important to their personal happiness (Rhoads 2004).

Oxytocin, a hormone linked to nurturing behavior, promotes a calm, relaxed emotional state. In males, oxytocin is released during orgasm. In females, it is released in large quantities during pregnancy and breastfeeding (Brizendine 2006, 2010; Rhoads 2004). In a study of virgin female monkeys, injection of oxytocin resulted in maternal behavior (Hrdy 1999). Human females have more neural receptors for oxytocin than men, and this number increases further during pregnancy (Hrdy 1999; Moir and Jessel 1991; Moir and Moir 2003).

In addition to the stronger desire for parenthood (Rhoads 2004), females are also more likely than men to seek out contact with infants (Maccoby 1999). Females are more likely to look after a baby (Sax and Todd 2005). Progesterone is released when a woman sees a baby. Progesterone is a hormone that releases parental and nurturing feelings. Men do not have this experience (Pease and Pease 2001). Females find it more pleasurable to care for infants (Ehrensaft 1990).

Among children, girls prefer more play parenting. They, like women, are typically more responsive to infants and young children than males (Geary 1998; Sax and Todd 2005). Boys, in play behavior, prefer inanimate mechanical objects (Geary 1998).

Mothers tend to spend more time with their children than do fathers (Rhoads 2004). These sex differences in nurturing behaviors occur very early, before socialization could influence behavior (Blum 1998; Fisher 1999; Geary 1998). Increases in estrogen and progesterone, which do not occur in males, are linked to females' interest in infants (Fisher 1999; Maccoby 1999). Bonding and nurturing instincts in males are weaker than in females (Hrdy 1999). Mothers of young children tend to be more 'involved in their children's lives and feel a stronger bond with their young children than do fathers (Ambert 1999; Tooley 2002).

H3: Females will have a stronger preference than males to support organizations which care for infants, children, and youth.

Social Differences

Sex differences with respect to social relationships shall be discussed in this section. The social relationships of children will be presented, followed by a discussion of adult social relationships.

At the earliest ages in which boys and girls are developmentally mature enough to engage in social play, girls prefer to play with girls; boys prefer to play with other boys (Geary 1998; Hines and Kaufman 1994).

Boys engage in more physical, rough-and-tumble play. Boys are more competitive and enjoy group level competitive play. Boys enjoy playing in a larger physical space that allows for the physicality of the types of play that they enjoy. Boys prefer inanimate mechanical objects (vehicles and weapons) in their play. They enjoy taking things apart and putting them back together (experimental manipulation). The male brain's spatial ability helps boys excel at motor skills. Their targeting, throwing, and intercepting abilities are benefited (Kimura 2000). The sociodramatic play of boys focuses more on themes associated with power, dominance, and aggression (Geary 1998; Hines 2005). Males' rough play as boys teaches them the rules of male social behaviors and makes them less likely to be violent as adults (Sax and Todd 2005).

Girls engage in less competitive, more socially interactive play. Girls prefer dolls, doll clothes, cosmetics and dress-up items, and household toys (Berenbaum and Hines 1992; Hines and Kaufman 1994). Girls enjoy play parenting; they are more responsive to infants and young children than males. Sociodramatic play of girls focuses on family-related themes, such as taking care of children (Geary 1998). Speaking in general, boys are interested in things and how they work. Girls are interested in people and relationships (Baron-Cohen 2003, 2005; Brizendine 2006, 2010).

In addition to play behavior, social relationships also differ. Females are more consistently communal, manifesting greater empathy, more concern for the well-being of other girls, more nurturing, greater intimacy, and greater social-emotional support. Males are more consistently instrumental, manifesting more concern for the establishment of dominance, control of group activities, task orientation, and greater risk taking. Males are more concerned with the establishment and maintenance of social dominance. Females are more concerned with a reciprocal and socially stable system of interpersonal relationships. Although males tend to organize their social groups into dominance hierarchies, male social groups tend to be more stable across situations and time than female social groups, which tend to splinter into status cliques based on various attributes (like popularity, beauty, athletics, and sociability). Females are more likely to use language as a socially binding process. Females compete by using language to disrupt the social relationships of their competitors (Geary 1998).

Male awareness is concerned with getting results, achieving goals, status and power, beating the competition, and getting efficiently to the bottom line. Female awareness is focused on communication, cooperation, harmony, love, sharing, and interpersonal relationships (Pease and Pease 2001; Pease and Pease 2002). Men tend to value work. Women tend to value relationships. Research in the 1990s showed

that 70–80 % of men reported work as being the most important in their lives; 70–80 % of women said their families were the most important (Pease and Pease 2001).

Males substantially higher testosterone levels are associated both with their stronger interest in competitive sports and with their stronger interest in demanding careers (Navarro 2001). As noted previously, males tend to be more competitive than females (Rhoads 2004). Females tend to be more cooperative than males (Browne 2002; Maccoby 1999).

In terms of valuing social relationships, females tend to value altruistic, reciprocal, and supportive relationships. Males tend to value power, politics, competition, and affirmation of their social status (Baron-Cohen 2003). Men seek to dominate other men through moving up in hierarchical groups. Women seek influence, but they place greater value on reciprocal relationships. Females value group-oriented and group-facilitating acts more than males. Female groups are more cohesive, but less structured and less hierarchal than males' groups (Browne 1995; Golombok and Fivush 1994; Lips 2001; Rhoads 2004). In prison, women say they miss relationships and intimacy; men say they miss their lost power and sense of masculinity (Rasche 1991).

In regard to friendships, female friendships are focused around talking, self-disclosure, sharing feelings, and secrets. Male friendships are focused on shared interests and activities, with little conversation and self-disclosure. Female friendships tend to be more personal and intimate than male friendships. Females tend to prefer same status relationships with other females whereas males typically do not let unequal status interfere with a friendship (Sax and Todd 2005).

These sex differences with respect to social relationships have interesting implications for volunteer recruitment and retention. It is reasonable to expect that individuals would prefer to volunteer for and remain as volunteers for organizations in which they can be part of a social community they enjoy.

H4: Males prefer to volunteer in organizations that are goal and achievement oriented, emphasizing efficiency and practicality in meeting clearly defined objectives.

H5: Females prefer to volunteer in organizations that are people oriented, emphasizing consensus, communication, and cooperation.

H6: Males prefer to volunteer in organizations with a clearly defined hierarchy.

H7: Females prefer to volunteer in organizations that are less structured and less hierarchal than do men.

H8: Males prefer to volunteer in organizations that encourage team competition.

H9: Females prefer to volunteer in organizations that emphasize community building and reciprocal relationships.

H10: Males prefer to volunteer for organizations in which they feel dominant, and derive a sense of efficacy.

H11: Females prefer to volunteer for organizations in which they feel a sense of intimacy and belonging with other volunteers.

Study

A survey was designed to test the preceding hypotheses. It was reasonable to believe that individuals would be able to accurately respond to direct statements about their preferences with respect to volunteering. A series of statements were developed through multiple iterations using feedback from colleagues to ensure survey statements reflected a high degree of face validity to assess participants' preferences. The statements will be presented below with the hypotheses for which they were used to help readers evaluate how preferences were measured. Analysis of variance tests were used to determine statistical significances of mean differences between males and females.

Testing the hypotheses required measuring individuals' preferences for various aspects of volunteering for which no existing scales were available. A literature search indicated that for many constructs, single-item scales were as valid and predictive as multi-item scales. This was found to be the case when latent variables existed at a low level of abstraction and individual ability to accurately self-report was high (Abdel-Khalek 2006; Allen and Meyer 1990; Bergkvist and Rossiter 2007; Gardner et al. 1998; Gorsuch and McFarland 1972; Gorsuch and McPherson 1989; Hürny et al. 1996; Jordan and Turner 2008; Nagy 2002; Robins et al. 2001; Russell et al. 1989; Wanous et al. 1997). Nevertheless, it is acknowledged that it is customary to use multi-item scales. The results will present the measures of preferences as multi-item scales and report reliability statistics. However, individual scale items will also be presented with their statistics to provide readers with a complete information about the face validity and statistical properties of individual scale items.

Study participants were recruited from an on-line survey panel. This approach was deemed appropriate because research has shown that on-line panel data produces more reliable results than telephone surveys (Braunsberger et al. 2007) and has been used in prior research (Basil et al. 2006). Panel participants were contacted via email and invited to complete an online questionnaire.

There were 433 female (58%) and 309 male (42%) participants ($N = 742$). Participants' ages ranged from 18 years to 81 (mean age = 35.8 years). Sixty-one percent of participants reported that they were married or otherwise in a long-term, committed relationship. The average length of time participants have been married or in a committed relationship was 12 years. Thirty-three percent of participants volunteer on a regular basis.

Findings

The first hypothesis predicted that females would prefer to support organizations that help needy people. Participants rated their level of agreement using 5-point Likert scales on three statements: "I would prefer to donate to or volunteer for an organization that... (1) helps people who are suffering, (2) comes to the aid of people in distress, and (3) helps the homeless." The results are presented in Table 1. Females rated all the three items significantly higher than males did, providing support for Hypothesis 1.

Table 1 ANOVA results for H1

Item: I would prefer to donate to or volunteer for an organization that...	Sex	<i>N</i>	Mean	<i>SD</i>	<i>SE</i>	<i>F</i>	Sig.
Helps people who are suffering	Male	309	3.77	.955	.054	22.3	.000
	Female	433	4.09	.850	.041		
Comes to the aid of people in distress	Male	309	3.78	.938	.053	13.0	.000
	Female	433	4.02	.832	.040		
Helps the homeless	Male	309	3.49	1.074	.061	10.7	.001
	Female	433	3.73	.947	.046		
Items above combined as multi-item scale	Male	309	3.68	.879	.050	19.4	.000
	Female	433	3.94	.754	.036		
Cronbach's α (alpha) = .847							

The second hypothesis predicted that males would prefer volunteer roles that assumed some level of risk-taking and danger. Participants rated their level of agreement using 5-point Likert scales on three statements: "I would prefer to volunteer for an organization that... (1) might put me in danger in order to rescue other people, (2) makes me take risks that might place me in danger, and (3) requires confrontation and conflict with others." The results are presented in Table 2. Males rated all the three items significantly higher than females, providing support for Hypothesis 2.

The third hypothesis predicted that females would have a greater preference to support organizations that help infants, children, and youth. Participants rated their level of agreement using 5-point Likert scales on three statements: "I would prefer to donate to or volunteer for an organization that... (1) works closely with infants, (2) works closely with young children, and (3) works closely with teenagers." The results are presented in Table 3. Females rated all the three items significantly higher than males, providing support for Hypothesis 3.

The fourth hypothesis predicted that males would prefer to volunteer in organizations that are goal and achievement oriented, emphasizing efficiency and practicality in meeting clearly defined objectives. Participants rated their level of

Table 2 ANOVA results for H2

Item: I would prefer to volunteer for an organization that...	Sex	<i>N</i>	Mean	<i>SD</i>	<i>SE</i>	<i>F</i>	Sig.
Might put me in danger in order to rescue other people	Male	309	2.67	1.114	.063	24.7	.000
	Female	433	2.26	1.099	.053		
Makes me take risks that might place me in danger	Male	309	2.61	1.112	.063	24.7	.000
	Female	433	2.21	1.070	.051		
Requires confrontation and conflict with others	Male	309	2.40	1.123	.064	10.0	.002
	Female	433	2.14	1.105	.053		
Items above combined as multi-item scale	Male	309	2.56	1.021	.058	22.7	.000
	Female	433	2.21	.998	.048		
Cronbach's α (alpha) = .904							

Table 3 ANOVA results for H3

Item: I would prefer to donate to or volunteer for an organization that...	Sex	<i>N</i>	Mean	<i>SD</i>	<i>SE</i>	<i>F</i>	Sig.
Works closely with infants	Male	309	3.26	1.089	.062	45.7	.000
	Female	433	3.79	1.021	.049		
Works closely with young children	Male	309	3.48	1.005	.057	34.5	.000
	Female	433	3.91	.983	.047		
Works closely with teenagers	Male	309	3.41	.961	.055	10.9	.001
	Female	433	3.65	.973	.047		
Items above combined as multi-item scale	Male	309	3.38	.911	.051	35.6	.000
	Female	433	3.78	.895	.043		
Cronbach's α (alpha) = .884							

Table 4 ANOVA results for H4

Item: I would prefer to volunteer for an organization that...	Sex	<i>N</i>	Mean	<i>SD</i>	<i>SE</i>	<i>F</i>	Sig.
Is efficient in accomplishing its objectives	Male	309	4.11	.956	.054	5.1	.024
	Female	433	4.25	.814	.039		
Sets specific objectives that guide activities	Male	309	3.95	.947	.054	7.4	.007
	Female	433	4.13	.805	.039		
Gets things done, quickly and efficiently	Male	309	4.05	.947	.054	4.1	.044
	Female	433	4.18	.825	.040		
Spends its time getting things done rather than spending time in meetings	Male	309	4.12	.970	.055	7.0	.008
	Female	433	4.29	.818	.039		
Items above combined as multi-item scale	Male	309	4.06	.885	.050	6.9	.009
	Female	433	4.21	.743	.036		
Cronbach's α (alpha) = .939							

agreement using 5-point Likert scales on the following statements: “I would prefer to volunteer for an organization that... (1) is efficient in accomplishing its objectives; (2) sets specific objectives that guide activities; (3) gets things done, quickly and efficiently; and (4) spends its time getting things done rather than spending time in meetings.” The results are presented in Table 4. Although, there were significant differences between males and females on the items, they were in the opposite direction than predicted. Female participants reported a greater preference for an efficient, goal-oriented organization than did males. Hypothesis 4 is not supported.

Hypothesis 5 predicted that females would prefer to volunteer in organizations that are people oriented, emphasizing consensus, communication, and cooperation. Participants rated their level of agreement using 5-point Likert scales on the following statements: “I would prefer to volunteer for an organization in which... (1) its leader makes decisions only after obtaining a consensus from staff and volunteers, (2) it comes to decisions carefully, after allowing a full discussion by staff and volunteers, and (3) its leaders are community builders, staff and volunteers

Table 5 ANOVA results for H5

Item: I would prefer to volunteer for an organization in which...	Sex	<i>N</i>	Mean	<i>SD</i>	<i>SE</i>	<i>F</i>	Sig.
Its leader makes decisions only after obtaining a consensus from staff and volunteers	Male	309	3.66	.990	.056	5.1	.025
	Female	433	3.82	.909	.044		
It comes to decisions carefully, after allowing a full discussion by staff and volunteers	Male	309	3.76	.980	.056	6.7	.010
	Female	433	3.94	.889	.043		
Its leaders are community builders, staff and volunteers make group decisions	Male	309	3.60	1.029	.059	9.2	.003
	Female	433	3.81	.878	.042		
Items above combined as multi-item scale	Male	309	3.67	.897	.051	8.9	.003
	Female	433	3.86	.771	.037		

make group decisions.“ The results are presented in Table 5. Female participants rated all the three items significantly higher than did males. Therefore, Hypothesis 5 is supported.

This finding is consistent with the findings of Foster and Meinhard (2005). They found that women’s organizations collaborated more than gender-neutral organizations. They also found that women’s organizations, compared to gender-neutral organizations, had higher level of bridging or bonding relationships. They conclude that women’s organizations were predisposed to be collaborative (Foster and Meinhard 2005).

Hypothesis 6 predicted that males would prefer to volunteer in organizations with clearly defined hierarchies. Hypothesis 7 predicted that females would prefer to volunteer in organizations that are less structured and less hierarchical. Participants rated their level of agreement using a series of three 5-point single-item scales on the following statements: “I would prefer to volunteer for an organization in which... (1) its leader makes decisions promptly, (2) there is a clear chain of command, and (3) leaders make the decisions and volunteers get the work done.” The results are presented in Table 6. Only one of the items was significantly different and the difference between means was in the opposite direction of the

Table 6 ANOVA results for H6 and H7

Item: I would prefer to volunteer for an organization in which...	Sex	<i>N</i>	Mean	<i>SD</i>	<i>SE</i>	<i>F</i>	Sig.
Its leader makes decisions promptly	Male	309	3.87	.948	.054	1.8	.180
	Female	433	3.96	.827	.040		
There is a clear chain of command	Male	309	3.88	.979	.056	4.7	.031
	Female	433	4.02	.826	.040		
Leaders make the decisions and volunteers get the work done	Male	309	3.50	1.024	.058	3.2	.077
	Female	433	3.36	.991	.048		
Items above combined as multi-item scale	Male	309	3.75	.853	.049	.3	.571
	Female	433	3.78	.729	.035		

predicted hypothesis. Two of the scale items and the combined multi-item scale did not result in significantly different means for the two genders. Therefore, Hypotheses 6 and 7 are not supported.

Hypothesis 8 predicted that males would prefer to volunteer for an organization that encourages team competition. As this is a simple and well-understood concept, a single-item scale was deemed suitable. Participants rated their level of agreement using a 5-point Likert scale on the following statement: “I would prefer to volunteer for an organization that puts its volunteers in teams and fosters healthy competition between teams.”

Hypothesis 9 predicted that females would prefer to volunteer for an organization that emphasizes community and reciprocal relationships. Participants rated their level of agreement using 5-point Likert scales on the following statements: “I would prefer to volunteer for an organization that... (1) understands the importance of building a community of volunteers; (2) provides its volunteers plenty of time and opportunities to express themselves and share their ideas; (3) provides opportunities for volunteers to work together, building community.” The results are presented in Table 7. Hypothesis 8 is not supported. The three statements used to test Hypothesis 9 are all significantly different and in the predicted direction. Therefore, Hypothesis 9 is supported.

Hypothesis 10 predicted that males would prefer to volunteer for organizations in which they feel dominant, and derive a sense of efficacy. Participants rated their level of agreement using 5-point Likert scales on the following statements: “I would prefer to volunteer for an organization that... (1) places me in a position of authority, and (2) allows me to make a meaningful difference.”

Hypothesis 11 predicted that females would prefer to volunteer for organizations in which they feel a sense of intimacy and belonging with other volunteers. Participants rated their level of agreement using 5-point Likert scales on the following statements: “I would prefer to volunteer for an organization that... (1) allows me to connect with others and build relationships, and (2) provides me with a sense of belonging to the community of volunteers.”

Table 7 ANOVA Results for H8 and H9

Item: I would prefer to volunteer for an organization that...	Sex	N	Mean	SD	SE	F	Sig.
H8...puts its volunteers in teams and fosters healthy competition between teams	Male	309	3.40	1.048	.060	.0	.947
	Female	433	3.41	1.030	.050		
H9 ₁ ...understands the importance of building a community of volunteers	Male	309	3.87	.929	.053	11.3	.001
	Female	433	4.08	.797	.038		
H9 ₂ ...provides its volunteers plenty of time and opportunities to express themselves and share their ideas	Male	309	3.78	.951	.054	12.1	.001
	Female	433	4.01	.814	.039		
H9 ₃ ...provides opportunities for volunteers to work together, building community	Male	309	3.85	.909	.052	13.7	.000
	Female	433	4.09	.800	.038		
Items H9 ₁₋₃ above combined as multi-item scale	Male	309	3.84	.865	.049	14.0	.000
	Female	433	4.06	.758	.036		

Cronbach's α (alpha) = .932.

Table 8 ANOVA results for H10 and H11

Item: I would prefer to volunteer for an organization that...	Sex	<i>N</i>	Mean	<i>SD</i>	<i>SE</i>	<i>F</i>	Sig.
H10 ₁ ...places me in a position of authority	Male	309	3.12	.937	.053	14.1	.000
	Female	433	2.86	.901	.043		
H10 ₂ ...allows me to make a meaningful difference	Male	309	3.89	.861	.049	13.9	.000
	Female	433	4.12	.789	.038		
H10 ₁₋₂ combined (Pearson cor = .313, Sig. = .000)	Male	309	3.50	.759	.043	.1	.790
	Female	433	3.49	.674	.032		
H11 ₁ ...allows me to connect with others and build relationships	Male	309	3.72	.943	.054	12.0	.001
	Female	433	3.95	.835	.040		
H11 ₂ ...provides me with a sense of belonging to the community of volunteers	Male	309	3.72	.920	.052	19.7	.000
	Female	433	4.00	.812	.039		
H11 ₁₋₂ combined (Pearson cor = .845, Sig. = .000)	Male	309	3.72	.899	.051	16.9	.000
	Female	433	3.98	.786	.038		

The results for H10 and H11 are presented in Table 8. Males did prefer an organization that places them in positions of authority, supporting the prediction that males prefer positions of dominance. Females, however, preferred organizations that allowed them to make meaningful differences. In retrospect, the statement “I would prefer to volunteer for an organization that allows me to make a meaningful difference” may not have been a good item for assessing which sex preferred to derive a sense of efficacy from volunteering. Hypothesis 10 is only partially supported. The items used to test H11 are significantly different, and the mean differences are in the predicted direction. Therefore, Hypothesis 11 is supported.

Discussion

The research for this study investigated sex differences in preferences for various dimensions of volunteering. The study found that females have a stronger preference than males for serving in organizations dedicated to helping needy people or people in distress. Males have a stronger preference for volunteer roles which might place them in dangerous or risky situations. Males were more willing than females to serve in volunteer roles involving confrontation and conflict with others. Females have a stronger preference to volunteer in positions in which they work closely with infants, young children, or teenagers. Females prefer to volunteer in organizations in which the leadership style is characterized by consensus building and participatory decision making. Females have a stronger preference to volunteer for organizations which emphasize community building and seek volunteers' ideas and input. Males preferred to volunteer in roles which placed them in positions of authority. Females preferred to serve in volunteer roles which allowed them to develop relational ties with others.

Four of 11 hypotheses were not supported: (1) males prefer to volunteer in organizations that are goal and achievement oriented, emphasizing efficiency and practicality in meeting clearly defined objectives; (2) males prefer to volunteer in organizations with a clearly defined hierarchy; (3) females prefer to volunteer in organizations that are less structured and less hierarchical than do males; and (4) males prefer to volunteer in organizations that encourage team competition. As discussed earlier, neurobiological research has found that differences between males and females vary in magnitude. Some differences are greater than others (Kimura 2000, 2002). The conceptual background arguing for the hypotheses was based on extending relevant psycho-biological research findings to the area of volunteer behavioral preferences. It is difficult to determine if the non-significant findings were the result of operational issues such as inadequate measures or statistical power or were the result of conceptual issues such as inappropriately extending small differences between the sexes to predict gender differences in volunteering preferences. Future research is needed to more insightfully interpret these results.

As discussed earlier in this article, evidence is growing that argues against a theory that proposes *all* gender differences are socially constructed. Proponents of this view offer between-nation volunteering differences as evidence of social influences on volunteering (Curtis et al. 2001; Curtis et al. 1992). Researchers have a tendency to comprehend phenomena from over-relying on the limited models of their disciplines. To more fully understand the complexity of volunteering in general and gender differences in volunteering in particular, plausible explanations for these differences from multiple disciplines are needed.

The results of this study provide further evidence that biosocial influences on gender differences in volunteering should not be overlooked. These findings should be viewed as encouraging information for researchers working on volunteering topics. Using both social and biological factors can improve our understanding of volunteering and add to the explanatory power of our research (Smith 1994; Wymer 2007). We should try to understand gender differences in volunteering (and possibly donation behavior) as developing out of complex and variable interactions between biology and the environment (Dupré 2001). The fact that prior research has observed that there are general gender differences with respect to preferences for different types of volunteer organizations (Palisi and Korn 1989) and that this study was able to support some precise predictions regarding some of the types of volunteering females and males prefer should be encouraging to researchers.

Implications

There are substantial managerial implications from this area of research. If a nonprofit organization's volunteers are predominately male or female, then there may be volunteer preferences for leadership/supervision style, decision-making style, and ways in which volunteer tasks are organized. Greater managerial awareness and adaptation to gender differences with respect to the volunteer experience can improve volunteer retention. Nonprofit leaders who are more aware of gender difference with respect to communication preferences and leadership style

of volunteers (and other groups) can more effectively lead their organizations and manage important relationships (Canary and Hause 1993; Eagly and Johnson 1990).

This study also has implications for volunteer recruitment. If a nonprofit manager has a better understanding of whether or not the nonprofit's mission or clients are differentially attractive to potential male or female volunteers, then communication channels can be identified to reach an audience more likely to respond positively to recruitment appeals. Recruitment messages can be made more effective by emphasizing points of greatest interest to a target audience.

Females tend to be more empathetic than males. They also tend to have a greater ability to detect and understand nonverbal communications (such as subtle facial expressions and body movements) (Glass 1992). The typical female brain's emotion region is better connected to the language region than in the typical male brain (Geary 1998). This helps females to better detect the emotions of others. These and other differences may have implications for researchers who are interested in learning how to develop more effective communication strategies targeting prospective volunteers (Lindenmeier 2008).

Limitations

This study has some limitations. The sample, while representative of the U.S. population with respect to some important demographic variables was not a true randomly selected sample. Therefore, the results, while having important implications, cannot be generalized to the entire population.

While an effort was made to test the hypotheses as directly as possible with items having a high degree of face validity, it must be remembered that preferences were assessed, not actual behavior. If there exists differential social desirability biases between the sexes, and the measurement items activated these latent biases, then the expressed preferences may not be predictive of actual behavior.

The sex differences which were assessed in this study were confined to the context of volunteering for or supporting charitable and nonprofit organizations. Extending these findings to other contexts should only be done with the support of future research.

Future Research

Future research which seeks to better understand sex differences in volunteering is needed. Our understanding of structural brain differences between the sexes has grown substantially in the past decade with the growth of neuroscience as a discipline and with improvements in technology for measuring brain differences. This increase in our knowledge of male and female brain differences has implications for deepening our understanding of differences in male and female volunteering behavior.

It is important to note that some sex differences are greater than others. For example, on average females tend to have a better verbal memory than males,

although this difference is small. However, males, on average tend to have a greater visual spatial targeting ability and this difference is substantial (Kimura 2000, 2002). Future research could seek to better understand which sex differences have substantial implications for volunteering and which differences have little influence on behavioral differences between the sexes.

Brain differences between the sexes interact with hormonal sex differences (Brizendine 2006, 2010). Behavioral sex differences are the greatest when hormonal sex differences are also the greatest. Behavioral sex differences become narrow with factors which decrease hormonal differences (Kimura 2000). Examples of variables which decrease hormonal sex differences are age for both sexes, and marital status and fatherhood for males (Legato and Tucker 2005; Wymer 2007). Future research on how these issues influence volunteering preferences and behavior would be useful.

Conclusion

This study has helped us improve our knowledge of sex differences with respect to sex-differentiated preferences in types of volunteering, types of volunteer organizations, and leadership style. Biological differences between the sexes were relied upon to develop a series of testable hypotheses, many of which were supported. This approach may stimulate additional research in other areas of voluntary action research. Adding biological influences to other influences on volunteering may enhance our overall understanding of this complex human behavior (Piper and Schnepf 2008).

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