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Emerging Adults' Psychosocial Adjustment: Does a Best Friend's Gender Matter?

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ABSTRACT. Friendship quality has been associated with psychosocial adjustment throughout the lifespan. Although emerging adults' friendships differ by gender, little is known about how the gender of emerging adults and their friends are related to their psychosocial adjustment. Undergraduate students from 4 U.S. universities (N = 792) completed an online study. Women reported higher levels of self-worth, identity commitment, social physique anxiety, and friendship quality than did men, $F(5, 779) = 10.12$, $p < .001$, $\eta^2 = .06$. A gender x friend's gender interaction was found, $F(5, 779) = 3.22$, $p = .007$, $\eta^2 = .02$, such that women with male friends reported lower levels of self-worth and more social physique anxiety compared to those with female friends, and men with female friends reported lower levels of self-worth compared to those with male friends. Thus, gender differences existed in emerging adults' psychosocial adjustment, but the gender of friends also aided in explaining that adjustment.

Friendships are advantageous to psychosocial development throughout the lifespan, but may become increasingly important during the third decade of life as individuals turn to friends instead of parents for support, advice, and companionship (Fehr, 2000). Indeed, due to demographic shifts that have delayed marital and parenthood timing and increased the pursuit of higher education, Arnett (2011) contended that the years from 18 to 29 are characterized by identity explorations, instability (e.g., changing roommates, love partners, jobs, educational directions), self-focus, feeling in-between adolescence and adulthood, and possibilities. As emerging adults experiment with romantic partners, they simultaneously forge close friendships in support of what Erikson (1968) called the young adulthood psychosocial crisis of emotional intimacy versus isolation. Because the majority of best friendships are with members of the same gender[1] (Demir & Özdemir, 2010), much of this research on friendships has focused on these relationships and their contribution to psychosocial adjustment; consequently, less is known about the association of other-gender friendships with well-being (c.f., Monsour, 2002). Other-gender friendships provide opportunities for intimacy, companionship, perspective into the world of the other gender, and sexual exploration (among heterosexuals). Significant gender differences exist in emerging adults' same-gender friendships, such that women tend to focus more on the intimacy aspects of friendships, although men focus mainly on agency (Ruble, Martin, & Berenbaum, 2006). Thus, other-gender friendships might impact adjustment differentially for men and women. In this study, we examined emerging adults' gender and the role of their friends' gender on psychosocial adjustment (i.e., self-worth, identity, friendship quality, and social physique anxiety).

[1] In accordance with APA 6th Edition Publication Manual, we have chosen to use the terms gender, same-gender, and opposite-gender throughout the manuscript. We believe that changes in psychosocial adjustment are not soley due to one's physiological makeup as connoted by the term sex, but rather that such differences emerge from gender role socialization as well.

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*Faculty mentor

Friendship

Friendships are salient relationships for emerging adults as they experience increased autonomy from parents, but may not yet have formed families of their own. Friendships are critical for satisfying emerging adults' social needs, and a substantial amount of time is spent with friends (Fehr, 2000). These friendships are significant because the intimacy, companionship, and social support that they provide are advantageous both in the short and long term. For instance, Grover, Nangle, Serwick, and Zeff (2007) demonstrated that discussions with friends influence academic achievement as well as career aspirations. They also found that friends encourage each other to refine interests and opinions, and to participate in new activities, all of which promotes emerging adults' identity exploration. Furthermore, friendships build the skills necessary for developing serious romantic relationships later in life (Baumgarte & Nelson, 2009).

As summarized by Hartup and Stevens (1997), friendship quality has been assessed with respect to companionship, intimacy, commitment, affective tone, instrumental help, and conflict. Moreover, these scholars note that positive friendship quality relates to higher levels of self-esteem and fewer identity problems. In a seminal study of emerging adults in various life phases, Carbery and Buhrmester (1998) found that friendships of unmarried emerging adults tend to be of high quality because friends are the main confidants regarding personal issues (e.g., values and romantic relationships), and provide a central role in companionship; upon marriage, the spouse takes on these roles. As a result, in the current study, we wanted to understand how gender contributes to emerging adults' friendship quality as an indicator of their social adjustment.

Gender Differences

Significant gender differences have been found in the way that women and men interact with friends and view friendships. According to Baumgarte and Nelson (2009), when close friends experience negative events or celebratory events, women are found to be more responsive than men regardless of whether they reported having a same- or other-gender friend. Further, both men and women report preferring male friends for engaging in activities, but female friends for emotional intimacy. This high level of intimacy may be a result of women's greater social orientation and sensitivity, which aids in decoding emotions (Ruble et al., 2006).

Other-Gender and Same-Gender Friendships

Friendships vary based upon gender, but they also vary with respect to the gender of the friend. Most adults in the U.S. favor same-gender friendships over other-gender friendships (Rose, 1985) due in part to the cultural challenges of having authentic friendships with the other gender (Rawlins, 1982); however, other-gender friendships are fairly common among emerging adults, especially at universities (Monsour, 2002). According to Felmlee (1999), women's same-gender friendships are more intimate and playful than are their other-gender friendships and men find their same-gender friendships to be less demanding than their other-gender friendships. Perhaps this is because other-gender friendships can provoke greater anxiety among heterosexuals, as friends may be viewed as potential romantic or sexual partners (Grover, 2011). Nevertheless, clear advantages to other-gender friendships exist in that they tend to allow for insider perspectives, other-gender companionship, and sensitization to gender differences in communication styles (Monsour, 2002). As a result, such relationships may be critical to long-term adjustment by allowing emerging adults to learn and practice skills that will help them in their subsequent romantic relationships. Other-gender friendships also provide opportunities to determine if one is viewed as attractive in the eyes of the other gender (Monsour, 2002) and to explore and become romantically involved with others. In a study by Afifi and Faulkner (2000), half of heterosexual college students had had sex with an other-gender friend, with some of these relationships becoming romantic partnerships.

Although previous research has considered other-gender friendships in comparison to romantic relationships, and in some cases same-gender friendships, in the current study we examined how emerging adults' psychological (namely self-esteem, identity exploration and commitment, and social physique anxiety) and social adjustment (friendship quality) are related to whether such individuals report their best friend to be of the same or other gender.

Self-Development

As one indicator of psychological adjustment, self-esteem is defined as the sum of evaluations across salient attributes of one's self or personality; it is the overall affective evaluation of one's own worth, value, or importance (Robinson, Shaver, & Wrightsman, 1991). During the third decade, emerging

adults' self becomes increasingly differentiated (Ruble et al., 2006). Self-esteem varies across individuals, yet age trends also exist. Specifically, a steady increase of self-esteem occurs from adolescence to middle adulthood, when thereafter it declines (Orth, Robins, & Widaman, 2012). Reports of gender differences have been mixed, with some studies reporting emerging-adult women as having lower levels of self-esteem (Galambos, Barker, & Krahn, 2006), and other studies reporting higher levels of self-esteem (Grover et al., 2007) compared to emerging-adult men. Given that self-esteem has been shown to decrease when individuals face multiple transitions (e.g., early adolescent girls who experience simultaneous pubertal and school transitions; Simmons & Blyth, 1987), it is important to study self-esteem in emerging adulthood, a time of instability in social networks (Arnett, 2011).

The identity of one's friend has been related to how an individual feels about oneself. Specifically, friendship-contingent self-esteem is conceptualized as feelings about the self that are dependent on how well relationships with friends are going (Cambron, Acitelli, & Steinberg, 2010), and individuals who rely heavily on others' input have a greater fluctuation of self-esteem (Ruble et al., 2006). In the current study, therefore, we examined the extent to which emerging adults' gender and that of their friends are related to the emerging adults' self-esteem.

Identity

Marcia (1980) defined identity as a self-constructed dynamic organization of drives, abilities, beliefs, and personal history in a coherent and autonomous self. Identity is not only a representation of who people think they are, but also the way in which they think (Lewis, 2003). Identity formation is critical during the second and third decade of life (Erikson, 1968), and identity tends to fluctuate during the formation process. Some gender differences have been found in identity formation. As summarized by Archer (1989), men are more likely to be committed to a goal or a belief, whereas women are more likely to question alternative roles. Further, few gender differences exist in process, domain or timing of identity formation. Nevertheless, towards the end of emerging adulthood, individuals' identity becomes more stable after they have tried out many possible roles (Côté, 2006).

Variation in developing identity formation may be due to gender as well as friendship experiences. As stated previously, women experience more intimate relationships than do men, especially in their same-gender friendships (Roy, Benenson, & Lilly, 2000). Because friends aid in the development of identity, and friendships differ as a result of gender, these factors may contribute to why men and women experience identity formation and commitment differently. Furthermore, a friend's gender also may be related to the identity process, given the different advantages and disadvantages of same- versus other-gender friendships. In the current study, we examined emerging adults' gender and the role of their friends' gender in relation to identity exploration and commitment.

Social Physique Anxiety

Social physique anxiety refers to the anxiety that people experience when they are worried about others' evaluations of their bodies (Brunet, Sabiston, Dorsch, & McCreary, 2010). In general, social physique anxiety occurs when individuals anticipate that others might evaluate their physical appearance negatively. According to Davison and McCabe (2006), social physique anxiety has been linked to numerous psychosocial issues in emerging adults, especially eating disorders, which in turn are linked to an increased risk for physical and mental health problems during adulthood. Further, they note that body image is one of the main stressors for emerging adults due to physical developments associated with increased social comparisons and the increased importance of social conformity. Additionally, they find that individuals who report lower levels of self-esteem generally report higher levels of social physique anxiety than do individuals reporting higher levels of self-esteem.

As there are gender disparities concerning the prevalence of eating disorders (Brunet et al., 2010) and self-esteem (Harter, 2012), it is perhaps not surprising that there are gender differences in social physique anxiety as well. In this decade alone, the media has had a substantial impact on individuals' ideals of appearance, with men experiencing a drive for muscularity and women experiencing a drive for thinness (Hutchinson, Rapee, & Taylor, 2010).

In a life phase filled with romantic partner exploration and self-exploration, it is perhaps not surprising that social physique anxiety is higher among emerging adults than adolescents (Woelders, Larsen, Scholte, Cillessen, & Engels, 2010). As individuals begin to explore romantic relationships, they are very aware of how others evaluate their bodies, thus resulting in higher

levels of social physique anxiety. Given the higher rates of social physique anxiety in this life stage compared to younger ages (Woelders et al., 2010) and the distinct experiences of same- versus other-gender friendships (see Barry & Madsen, 2010), we examined the extent to which emerging adults' gender and their friends' gender were related to social physique anxiety.

The Current Study

It is widely known that friendships are beneficial to the psychosocial development of emerging adults (Fehr, 2000). However, most studies that document this relationship between friends and adjustment confound having a friend and friendship quality (Hartup & Stevens, 1997). Consequently, we sought to examine who the friend was (with respect to the friend's gender) from the experience of that friendship (i.e., friendship quality). Furthermore, there has been little research examining whether the gender of that friendship matters to psychosocial adjustment. As a result, in the current study we examined the extent to which emerging adults' gender and their friends' gender were related to the emerging adults' psychosocial adjustment, including self-worth, identity (both exploration and commitment), social physique anxiety, and friendship quality.

Method

Participants

Participants were drawn from the 2009–2010 data collection of "[Project READY (Researching Emerging Adults Developmental Years)]," a multi-site study that was conducted by several developmental and family scholars. Participants for the current study consisted of 790 undergraduate students: 547 women (69%), 243 men (31%), M_{age} = 19.61, *SD* = 1.86, 18–29 age range. Participants were recruited at four different universities, including 14% (n = 112) from Loyola University Maryland, 19% (n = 151) from Louisiana State University, 30% (n = 240) from Kansas State University, and 37% (n = 289) from University of California-Davis. There was an overall response rate of approximately 60% at each site (range: 50–71%). Institutional Review Boards at each institution reviewed and approved this research.

Many participants (40%) were in their first year of university education, but other class years were represented: 27% second year, 20% third year, and 9% fourth year. Only 10% of the participants reported living in their parents' home; the remainder of the sample lived either in an apartment, house, or dormitory separate from their parents. Racially, most of the participants were European American (69% European American, 18% Asian American, 5% Latino American, 5% mixed/biracial, and 3% African American). Also, the sample was 95% heterosexual. A quarter of these participants had parents with a combined annual income of over $100,000, and 23% had parents with combined annual income of less than $50,000. Sixty percent of participants' fathers and 55% of mothers had earned a bachelor's degree or more.

Measures

Self-worth. Participants completed the self-worth subscale of the *Self Perceptions Profile for College Students* (Neeman & Harter, 1986). In the original subscale, participants chose between two opposing statements as to which statement was most like them and then to what extent. For the current study, based upon inspection of factor loadings onto the overall score of global self-worth, only five items were used. Each of the five items were reworded from two opposing statements into one single statement, such as "I am happy being the way I am." Items were rated on a scale from 1 to 4, where 4 represented the most competent or adequate self-judgment and 1 represented the least competent or adequate self-judgment (in the current study, α = .84). Concerning validity, Nelson et al. (2008) showed that emerging adults who reported higher levels of self-worth were less likely to report shyness.

Identity. Participants completed the Ego Identity Process Questionnaire (Balistreri, Busch-Rossnagel, & Geisinger, 1995) to assess identity exploration and commitment. The original measure consisted of 32 items, but only the exploration subscale (four items) and commitment subscale (eight items) were used in this study. Participants answered questions on a 6-point Likert-type scale (1 = *strongly disagree* to 6 = *strongly agree*). Scoring was reversed for negatively stated items. Items scored were summed to obtain total scores for each subscale separately. Sample items included, "I have tried to learn about different occupational fields to find the best one for me" (in the current study, exploration, α = .65), and "I am not sure about what type of dating relationship is best for me" (in the current study, commitment, α = .72). Emerging adults who were shy (low on extraversion and anxiety) were more likely to report low levels of identity commitment

than were asocial (low on extraversion, but high on anxiety) or comparison group participants (average extraversion and anxiety levels; Barry, Nelson, & Christofferson, 2013).

Friendship quality. Emerging adults were asked to assess their best friendship on the four subscales (intimate disclosure, affection, emotional support, and guidance/advice) of the Social Provisions Questionnaire (Carbery & Buhrmester, 1998). Participants answered 12 questions about their best friend on a 5-point Likert-type scale (1 = *little or none* to 5 = *the most*). To distinguish between a friend and other close relationships, the following instructions were given: "The next questions ask about your relationships with each of the following people (1) your best friend (nonromantic), (2) your romantic partner, and (3) your mother and father. Please answer each of the following questions for each person. Sometimes the answers for different people may be the same; sometimes they may be different." Sample items include "How much do you tell this person everything?" for intimate disclosure, "How much does this person like or love you?" for affection, "How good is your relationship with this person?" for emotional support, and "How often do you turn to this person for support with personal problems?" for guidance/advice. Items were averaged to yield the total score for friendship quality (for the current study, α = .96). As Nelson et al. (2008) showed, greater levels of friendship quality (using an average of all 9 subscales) were associated with lower levels of shyness. Also, shy emerging adults (i.e., low levels of extraversion, but high levels of anxiety) reported lower levels of affection (a subscale of friendship quality) than did the comparison group (i.e., average levels of extraversion and anxiety; Barry et al., 2013).

Gender of best friend. After completing the friendship quality inventory, participants were asked the following question, "What is the gender of the best friend you had in mind when answering these questions?" Responses were coded as 0 for *men* and 1 for *women*.

Social physique anxiety. Given the large battery of scales that were used in this larger data collection, the Project READY investigators choose three of the original 12 items from the *Social Physique Anxiety Scale* (Hart, Leary, & Rejeski, 1989) that had the strongest factor loadings for the scale to be included in this study. Then participants rated these three items on a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*). Sample questions included "When I look in the mirror I feel good about my physique or figure" and "In the presence of others, I feel apprehensive about my physique or figure." In the current study, the alpha level was .82, which is comparable to those that used the full scale (α = .87; Brunet et al., 2010). Concerning validity, Brunet et al. (2010) found self-esteem to be related negatively to social physique anxiety, which in turn was related positively to drive for muscularity and drive for thinness.

Procedure

Faculty announcements in undergraduate courses notified participants of the study. In order to appeal to a broad range of students, undergraduate courses were primarily introductory psychology courses or other large general education courses. Faculty members distributed a handout to their students that included a brief explanation of the study and instructions for accessing the online survey. Students used a class-specific recruitment code to access the study website. After informed consent was obtained online, the participants began the questionnaires, which took approximately 45 min to complete. Online data collection allowed for a unified compilation across multiple universities. A $20 Amazon gift code was distributed to most participants for their participation, but a few students were offered extra credit for their participation.

Results

To test the hypothesis that emerging adults' gender as well as friends' gender are related to psychosocial adjustment, a 2 (gender) x 2 (friend's gender) MANOVA was calculated on self-worth, identity exploration, identity commitment, friendship quality, and social physique anxiety[2]. As shown in Table 1, main effects were found for gender, $F(5, 779) = 10.12$, $p < .001$, $\eta^2 = .06$, but not for friend's gender, $F(5, 779) = .59$, *ns*. Specifically, women reported higher levels of self-worth, identity commitment, and friendship quality as well as higher levels of social physique anxiety than did men. The MANOVA also revealed a gender x friend's gender interaction, $F(5, 779) = 3.22$, $p = .007$,

[2] To eliminate any potential confound of friendship quality on these analyses, we separately conducted a 2 (gender) x 2 (friend's gender) MANCOVA on self-esteem, identity exploration, identity commitment, and social physique anxiety, while controlling for friendship quality. The results were exactly the same as reported in the manuscript with one difference; the main effect of gender on self-worth became a trend ($p = .09$). Because multivariate analyses always involve interpreting data based upon the highest level of significant interaction, and self-worth was involved in an interaction, we presented the original analyses.

η^2 = .02. Specifically, two significant gender x friend's gender interactions were found on self-worth and social physique anxiety; univariate ANOVAs were calculated to explore these interactions as shown in Table 2. For self-worth, having same-gender friends was associated with higher levels of self-worth, $F(1, 779) = 9.93$, $p = .002$, $\eta^2 = .007$. For social physique anxiety, women reported greater levels when their friend was a man compared to when their friend was a woman, $F(1, 779) = 6.16$, $p = .01$, $\eta^2 = .009$. No differences in social physique anxiety were found for men based upon their friends' gender.

Discussion

Our research investigated the emerging adults' gender and the role their best friends play in emerging adults' psychosocial adjustment. In our study, women reported higher levels of self-worth, identity commitment, friendship quality, and social physique anxiety overall than did men. Having same-gender friends was associated with higher levels of self-worth, especially for men. Women reported substantially more social physique anxiety when their friend was a man compared to when their friend was a woman. In sum, gender differences existed in emerging adults' psychosocial adjustment, but the gender composition of the friendship aided in explaining that adjustment.

Gender and Psychosocial Adjustment

Friendship quality. Our findings regarding friendship quality (which consisted of intimate disclosure, affection, emotional support, and guidance/advice) were consistent with the existing literature with greater emotional intimacy in women's friendships (e.g., Ruble et al., 2006) and greater emphasis on shared activities and companionship in men's friendships (Baumgarte & Nelson, 2009). Therefore, given these friendship patterns, it is not surprising that women report higher levels of friendship quality in emerging adulthood, as well as throughout the lifespan.

Social physique anxiety. Women's reports of higher levels of social physique anxiety also were consistent with earlier research that documented heightened societal pressures for women to be thin (Brunet et al., 2010). After puberty, the ideal of an unrealistically thin body becomes increasingly harder for girls (and, later, women) to achieve due to the normative increase in body fat (Smoll & Schutz, 1990). Boys (and men) have an easier time during and after puberty acquiring muscles than do girls (and women; Brunet et al., 2010). Therefore, our findings fit with the literature because the physical reality of the muscle to fat ratio has the potential to result in higher levels of social physique anxiety in these emerging-adult women compared to emerging-adult men.

Self-esteem. Although the current study found that women reported higher levels of self-esteem, the literature was mixed with some finding lower levels (Orth, Trzesniewski, & Robins, 2010) and others finding higher levels (Grover et al., 2007) for women. Further, these gender differences tended to diminish only after the age of 30 (Orth et al., 2010). The sociohistorical context could explain, in part, this mixed literature. Several decades ago, women suffered from self-doubt, feelings of incompetence, and loneliness if they were unmarried and did not have a career by the age of thirty (Helson, 1992; Helson, Mitchell, & Moane, 1984). At present, women receive the majority of all bachelor's degrees in the United States (Grabmeier, 2006), and in turn are climbing the corporate and professional ladder to a greater extent than ever before (Bertrand & Hallock, 2001). Since adolescents in college bound tracks make the strongest gains in self-esteem over high school (Fuligni, Eccles, & Barber, 1995), it is plausible that these university sample of women used for the current study are likely to report higher levels of self-esteem than the population at large of emerging-adult women.

Identity. In our study, women reported higher levels of identity commitment, even though the existing literature was mixed with women reporting greater difficulty in forming an identity (Gilligan, 1982) or finding few gender differences in process,

TABLE 1

Adjustment as a Function of Emerging Adult's Gender and Friend's Gender (*df* = 1, 779)

	Emerging Adult's Gender						Friend's Gender					
	Men		Women				Men		Women			
	n = 241		*n* = 544				*n* = 238		*n* = 547			
Adjustment	*M*	*SD*	*M*	*SD*	*F*	η^2	*M*	*SD*	*M*	*SD*	*F*	η^2
Self-Worth	3.18	0.69	3.33	0.54	5.47*	.007	3.22	0.68	3.31	0.55	0.35	.0001
Identity Exploration	4.03	0.88	4.15	0.82	3.23	.004	4.08	0.90	4.12	0.82	0.78	.001
Committment	3.62	0.77	3.87	0.82	6.70**	.009	3.66	0.78	3.85	0.83	0.06	.0001
Friendship Quality	3.53	0.93	3.90	0.83	12.06***	.015	3.60	0.88	3.88	0.85	0.31	.0001
Social Physique Anxiety	2.55	0.89	2.83	0.96	12.44***	.016	2.63	0.95	2.80	0.94	0.46	.001

*$p < .05$, **$p < .01$, ***$p < .001$

domain, and timing of identity development (Archer, 1989). We suspect that this finding reflects some historical changes as was just described for gender differences in self-esteem (Grabmeier, 2006). Thus, such women have utilized this structured moratorium effectively and developed a clear plan for who they are and where they are next headed. However, further work on this topic is needed, especially since the reliability for these identity dimensions (particularly identity exploration) were lower than expected, which in part may have contributed to the insignificant findings for identity exploration.

Friend's Gender and Psychosocial Adjustment

Friendship quality. The gender of one's friend has been related to friendship experiences, including the promotion of psychosocial adjustment (Grover et al., 2007). However, it was surprising that our study found that men with same-gender friends reported higher levels of friendship quality (including intimate disclosure) than those with other-gender friends, because their friendships with women are typically more intimate than their friendships with men (Roy et al., 2000). Nevertheless, because men tended to focus on activities with their friends (Baumgarte & Nelson, 2009) and perceived same-gender friends to be less demanding than having friends of the other gender (Femlee, 1999), it follows that men's same-gender friendships may be of higher quality than their friendships with women.

Social physique anxiety. Body image is one of the main stressors for emerging adults (Davison & McCabe, 2006). Additionally, perceived peer influence, perceived weight-related teasing, and the self-reported eating behaviors of friendship clique members all contribute significantly to the concurrent predictions of individuals' eating pathology (Hutchinson et al., 2010). Therefore, it is clear that with whom individuals choose to keep company plays an important part in how they view themselves and their body. In the current study, we built upon this premise by finding that women reported more social physique anxiety when their friend was a man rather than a woman. In other words, women may feel more inferior (at least with respect to body image) when they report having close friendships with men. Other-gender friendships have been found to inform heterosexuals' self-image; in other words, they learn whether they are attractive to the other gender (Monsour, 2002). As a result, women who name men as their best friends may report higher levels of such anxiety prior to other-gender friendship formation, and in turn removing themselves from women who might exacerbate their existing anxiety. Clearly, longitudinal designs that assist in teasing apart causality are needed. Subsequent research may help to determine to what extent these negative feelings exist, for how long, and with whom (just one's male best friend vs. other male friends). However, we did not measure the extent of that other-gender friendship in regards to whether there were sexual interests or sexual behaviors between the two friends in the current study. Even if the friendships began as platonic, there is always a possibility for such friendships among heterosexuals to morph into friendships with benefits or romantic relationships over time. As a result, it follows that women were found to experience higher levels of social physique anxiety with male best friends. Furthermore, same-gender friendships involve different activities and conversations than other-gender friendships, and this could also account for the findings. Thus, this finding requires further investigation before firm conclusions can be drawn.

TABLE 2

Gender X Friend's Gender on Self-Worth and Social Physique Anxiety

	Emerging-Adult Men					Emerging-Adult Women				
	Male Friend		Female Friend			Male Friend		Female Friend		
	n = 192		*n* = 49			*n* = 46		*n* = 498–500		
Adjustment	*M*	*SD*	*M*	*SD*	F^1	*M*	*SD*	*M*	*SD*	F^2
Self-Worth	3.23	.67	2.99	.75	4.96*	3.17	.73	3.35	.52	4.05*
Social Physique Anxiety	2.51	.90	2.70	.86	1.72	3.13	1.00	2.81	.95	4.82*

* $p < .05$. [1] *df* for all adjustment variables by emerging-adult men was 1,239. [2] *df* for self-worth by emerging-adult women was 1,542. *df* for social physique anxiety by emerging-adult women was 1,544.

Limitations and Future Directions

In the current study we assessed friendships and their developmental significance, but at a single time point. Thus, scholars should utilize longitudinal or sequential studies in future research given the fluidity of emerging adults' social lives (Settersten & Ray, 2010). Although our sample was ethnically diverse, it was entirely from the U.S., and thus may not be generalizable to other cultures. As a result, researchers should undertake the task of considering cultural variations for future work. As previously noted, participants may have considered friends with whom they did or did not engage in sexual behavior when completing the friendship

quality questionnaire. In the current study, participants were instructed that this best friendship should be nonromantic. Because participants were simultaneously asked to rate each parent, a best friend, and romantic partner, and most participants in the study identified a romantic partner (64.3%) in addition to a best friend, it seems unlikely that the designated friend was someone other than the intended platonic friendships. In fact, in another study where university students from across the U.S. completed both Social Provisions Questionnaire subscales for friendship and romantic relationship quality, Barry, Madsen, Nelson, Carroll, and Badger (2009) showed that each set of relationship qualities predicted different criteria for adulthood, thereby suggesting that participants had two different and conceptually distinct types of relationships in mind when answering these questions. Nevertheless, it remains possible that participants could have identified a friend "with benefits" (i.e., involving sexual activity, but no romantic feelings) or an emerging romantic partner). Consequently, future work should include a clear definition of a best friend (see Demir & Özdemir, 2010) to avoid possible study confounds.

Other demographic and behavioral characteristics of emerging adults' best friends as well as other close friends from each friend's perspective should be obtained in future work, as has been done by Demir and Özdemir (2010). In so doing, such studies could examine what the constellation of close friendships is really like and how they contribute jointly to adjustment. Lastly, the current study utilized a sample of emerging adults who were all university students, albeit at a range of types of institutions across the country. However, emerging adulthood is a qualitatively different experience for those who attend an institution of higher education versus do not (Sandefur, Eggerlig-Boeck, & Park, 2005), as they do not benefit from the same stable living arrangements as those who attend college (Sandefur et al., 2005). As a result, these emerging adults are likely to experience a different pattern of forming and retaining friendships over time as they transition from school to work at an earlier age.

Conclusion

Our study examined how gender and a best friend's gender contribute to emerging adults' psychosocial adjustment. We found gender differences in psychosocial adjustment, such that women fared better in self-worth, identity commitment, and friendship quality, but worse in social physique anxiety than did men. In particular, same-gender friendships were more beneficial to women in terms of those women reporting lower levels of social physique anxiety, and more beneficial to both men and women in their reporting higher levels of self-esteem compared to those with other-gender friendships. These findings highlight the importance of continued research on the role of gender in emerging-adults' friendships.

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Parental Involvement in a Childcare Center: Assessing Predictors of School-Based Involvement

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ABSTRACT. The Hoover-Dempsey and Sandler (1995, 1997, 2005) model of parental involvement proposes that a parent's motivational beliefs, school climate, and life context variables affect a parent's decision to become involved in his/her child's education. This model has been tested at the elementary and secondary school level, but few studies have tested the model in childcare centers for infants, toddlers, and preschool-aged children. We used this model to identify and examine factors that predicted school-based parental involvement at a nonprofit childcare center located in the Midwestern United States. Within the context of a childcare center, school-based parental involvement was defined as participating in childcare-sponsored events, volunteering at the childcare center, and participating in shared governance activities. Motivational beliefs, specific invitations for involvement, parent-to-parent relationships, and time for involvement emerged as significant and positive correlates of parental involvement, $ps < .05$. However, when all of the significant predictors were considered simultaneously in a multiple regression analysis, we found that motivational beliefs was the strongest predictor of the actual frequency of events attended, $\beta = .32$, $p = .05$. We recommend that childcare centers foster parents' motivational beliefs about the importance of involvement.

The positive link between a parent's involvement in their child's school and the child's academic and social achievement has been widely established (El Nokali, Bachman, & Votruba-Drzal, 2010; Fan & Chen, 2001; Jeynes, 2003). Most of the research on parental involvement has been conducted at the elementary and secondary school level. However, there is a growing body of research examining parental involvement at the infant, toddler, and preschool level (e.g., Castro, Bryant, Peisner-Feinberg, & Skinner, 2004; Cooper, Crosnoe, Suizzo, & Pituch, 2010; Mendez, 2010). This prior research establishes that parental involvement can increase the positive educational and social outcomes of infants, toddlers, and preschoolers. Parental involvement may also positively affect the childcare center itself. Indeed, research suggests that many childcare centers depend on parents for volunteer work, fund-raising efforts, and shared governance (Leviten-Reid, 2010). Parents who are involved with their child's childcare center may also be more likely to continue their child's enrollment and more likely to engage in word-of-mouth referrals by making friends, relatives, and coworkers aware of the facility.

In this paper, we examined the factors that predicted school-based parental involvement in a childcare center for infants, toddlers, and preschoolers. We defined school-based parental involvement as attending events sponsored by the childcare center (e.g., parent-teacher conferences), engaging in volunteering and fund-raising efforts (e.g., volunteering within the classroom),

and participating in shared governance activities (e.g., attending parent-teacher association meetings). Our research on this topic was guided by the model for parental involvement proposed by Hoover-Dempsey and Sandler (1995, 1997, 2005; see also Green, Walker, Hoover-Dempsey, & Sandler, 2007; Hoover-Dempsey et al., 2005; Walker, Wilkins, Dallaire, Sandler, & Hoover-Dempsey, 2005). A figure and description of the model is provided by Hoover-Dempsey and Sandler (2005) on the Family-School Partnership webpage (http://www.vanderbilt.edu/peabody/family-school/model.html).

In Level 1 of the Hoover-Dempsey and Sandler (1995, 1997, 2005) model, parents' motivational beliefs (i.e., a parent's beliefs that it is important to become involved at the school), the general school climate (i.e., relationships with the school and invitations for involvement), and life context variables (i.e., parental knowledge and skills, time and energy, and family resources) affect whether parents decide to become involved in their child's education. Level 2 of the model outlines the many ways parents can become involved. Involvement opportunities include values (i.e., helping the child to develop values, goals, expectations, and aspirations), home (i.e., helping the child with home-based activities, such as homework), parent-teacher (i.e., facilitating parent-teacher communication), and school (i.e., becoming involved in school-based activities and events) involvement. These parental involvement activities are thought to engage the learning mechanisms of encouragement, modeling, reinforcement, and instruction (Level 3 of the model) that create the academic self-efficacy, intrinsic motivation, self-regulatory strategies, and social efficacy (Level 4 of the model) needed to promote student achievement (Level 5 of the model).

In this investigation, we were particularly interested in the predictive factors of school-based involvement that occurred in the context of a childcare center for infants, toddlers, and preschoolers. Within the context of a childcare center, school-based parental involvement might include attending events sponsored by the childcare center, engaging in volunteering and fund-raising efforts, and/or participating in shared governance activities. This focus on school-based parental involvement is important, as previous research on parental involvement at the infant, toddler, and preschool level has tended to focus on home-based involvement (e.g., Arnold, Zeljo, Doctoroff, & Ortiz, 2008; Bridge, 2001; Cooper et al., 2010; Sy, Rowley, & Schulenberg, 2007) and parent-teacher involvement (e.g., Arnold et al., 2008). Certainly, home-based and parent-teacher involvement are important forms of involvement at the infant, toddler, and preschool level. However, research focused specifically on how to get parents of young children involved in activities sponsored by a childcare center is an underresearched aspect of parental involvement. Understanding the factors that predict school-based parental involvement can help childcare centers better target their event programming in ways that benefit both the child and the childcare center. Many childcare centers depend on parents for volunteer work, fund-raising efforts, and shared governance (Leviten-Reid, 2010).

In Level 1 of the Hoover-Dempsey and Sandler (1995, 1997, 2005) model, a parent's motivational beliefs, the general climate of the school, and life context variables predict whether a parent becomes involved in a child's education. As such, we decided to use Level 1 of the model as a guide in developing our own research. This focused attention is not unique; Anderson and Minke (2007) focused on Level 1 to examine predictors of home and school-based involvement among 351 parents of elementary school children. They found that home-based involvement was more common than school-based involvement. Additionally, the personal motivation of a parent to become involved and specific invitations from the school predicted both home- and school-based involvement. Interestingly, the life context variables (i.e., time, energy, and finances) of the parent did not predict involvement. When all of the predictor variables were considered simultaneously in a multiple regression analysis, specific invitations for involvement emerged as the strongest predictor of involvement.

Green et al. (2007) also used Level 1 of the model to examine predictors of home and school-based involvement among 853 parents of elementary and middle school children. Multiple regression analyses indicated that motivational beliefs, invitations from the child, and parents' knowledge, time, and energy were significant predictors of home-based involvement. Motivational beliefs, invitations from the child and the teacher, and time and energy for involvement were also significant predictors of school-based involvement.

Similarly, we were interested in using Level 1 to identify factors that might predict parental

involvement at the infant, toddler, and preschool level. Although very little research has examined predictors of parental involvement at the infant, toddler, and preschool level (Arnold et al., 2008), there are reasons to believe that the factors that motivate parental involvement in parents of young children will be similar to the factors that motivate parental involvement among parents of older children. For example, Green et al. (2007) found that, although parents of middle school children reported significantly less home- and school-based involvement than parents of elementary school children, the overall predictive power of the model was sustained across the different age groups. Likewise, Waanders, Mendez, and Downer (2007) used aspects of the model to identify efficacy beliefs and life context variables that predicted home and school-based involvement among parents of Head Start preschool children. Combined, this previous research indicates that the Hoover-Dempsey and Sandler model might be useful for understanding parental involvement at the infant, toddler, and preschool level. In the sections below, we discuss more specifically why we believed a parent's motivational beliefs, positive center climate, and life context variables predicted school-based involvement at a childcare center.

Parents' Motivational Beliefs

Hoover-Dempsey and Sandler (1995) proposed that parents become involved in their child's education because "they *construe the parental role* as including parental involvement in their children's education" (p. 313). Motivational beliefs include the belief that one should become involved in their child's education (i.e., role construal beliefs), as well as the belief that one has the necessary knowledge and skills needed to help one's child with schoolwork (i.e., efficacy beliefs). In research conducted with parents of school-aged children, role construal beliefs have been associated with both home- and school-based involvement, whereas efficacy beliefs have been more strongly associated with home-based involvement (Anderson & Minke, 2007; Green et al., 2007; Sheldon, 2002; Waanders et al., 2007). This makes sense. Role construal beliefs are rooted in the beliefs about the importance of involvement, which can apply to home- or school-based involvement. In contrast, efficacy beliefs tend to be rooted in the belief that parents have the knowledge and skills needed to help their children with school projects; beliefs that are most applicable to home-based involvement.

In general, very little research has been conducted examining the role of motivational beliefs and parental involvement at the infant, toddler, and preschool level. The little research that exists suggests that results found with parents of school-aged children do generalize to parents of younger children. For example, in their study of 154 caregivers of Head Start preschool students, Waanders et al. (2007) measured efficacy beliefs and parental involvement. Consistent with prior research conducted with parents of school-aged children, Waanders et al. found that efficacy beliefs significantly predicted home-based involvement, but not school-based involvement. Similarly, Sy et al. (2007) surveyed 957 Asian American parents and 10,804 European American parents of kindergarten children and found that parents' role construal beliefs about the importance of involvement predicted both home- and school-based involvement. Combined, the results of Waanders et al.'s study and Sy et al.'s study suggest that the link between motivational beliefs and parental involvement generalize to parents of younger children. Given our emphasis on school-based involvement, we decided to focus our interests on role construal beliefs, rather than efficacy beliefs. Therefore, we hypothesized that school-based parental involvement in a childcare center would be highest when a parent believed it was important to become involved.

Center Climate

The general climate of a school or childcare center, fostered by relationships with faculty and staff at the school, can also affect a parent's decision to become involved. In their tests of the Hoover-Dempsey and Sandler model, Anderson and Minke (2007) and Green et al. (2007) found that specific invitations for involvement from the school predicted home- and school-based involvement among parents of school-aged children. Barge and Loges (2003) interviewed 80 parents of middle school students, 128 middle school students, and 63 middle school teachers. Parents, students, and teachers alike agreed that there is a strong link between the quality of the relationship between parents, teachers, and students and a parent's level of involvement.

Parents of younger children may be similarly motivated to become involved in childcare-sponsored events if a childcare center can create a positive climate for involvement. For example, Nzinga-Johnson, Baker, and Aupperlee

(2009) surveyed over 400 parents and teachers of kindergartners and found that higher quality parent-teacher relationships predicted higher parental involvement, measured as a combination of home-, school-, and parent-teacher-based involvement activities. Waanders et al. (2007), in a survey of 154 caregivers of Head Start preschool children, also found that school-based involvement was correlated with positive parent-teacher relationships. Additionally, Mendez (2010) found in a survey of 288 parents of Head Start children that parents were more likely to participate in workshops on parent excellence when parents were satisfied with the quality and performance of the Head Start program. Given these findings, we hypothesized that school-based parental involvement would be highest when a childcare center extended specific invitations for involvement and when parents reported positive parent-center relationships and satisfaction with the childcare center.

Life Context and Social Support

Hoover-Dempsey and Sandler (1995, 1997, 2005) theorized that life context variables, such as a parent's time, energy, and family resources, might also affect parental involvement. However, in their discussions of the model, Anderson and Minke (2007), Green et al. (2007), and Walker et al. (2005) acknowledged that the existing research examining the link between parental involvement and time, energy, and family resources are mixed. Indeed, in their test of the Hoover-Dempsey and Sandler model, Anderson and Minke found no association between the reported time and energy of the parents and their level of involvement. Green et al. found time and energy predicted parental involvement, but socioeconomic status did not. In contrast, research by Arnold et al. (2008) found that the socioeconomic status and the single parenthood status of 163 parents of preschoolers predicted lower parental involvement. Similarly, in a study of 288 parents of Head Start preschool children, Mendez (2010) found that participation in a series of Head Start parent excellence workshops was highest among parents with higher levels of income. Parents in Mendez's study also reported work-schedule conflicts as the primary barrier to involvement in the program.

Perhaps the mixed findings of the literature can be explained by the fact that life context variables are only one of many factors that predict parental involvement (Hoover-Dempsey & Sandler, 1995; Sheldon, 2002; Waanders et al., 2007). Hoover-Dempsey and Sandler (1995) noted that a parent's motivation to become involved could trump any barriers presented by a lack of resources. Similarly, Waanders et al. (2007) suggested that life context variables may reflect the deeper dynamics of the self and the community that in turn motivate (or demotivate) a parent to become involved. Building off of this premise, Waanders et al. proposed that it may be better to focus on the consequences of various demographic factors, such as the lack of efficacy beliefs and/or social support that may come from being an at-risk parent, rather than focusing on the sociodemographic variables themselves.

To test this notion, Waanders et al. (2007) surveyed 154 caregivers of Head Start preschool children. They measured sociodemographic variables (e.g., ethnicity, marital status, employment status, education level of the parent, economic stress), parental efficacy beliefs (i.e., do parents believe they have the necessary skills to help their child), and neighborhood characteristics (e.g., crime, social support networks, neighborhood disorder). These variables were entered into a hierarchical linear regression model to examine significant predictors of home- and school-based involvement.

Waanders et al. (2007) found that higher education levels of the parents, higher parental efficacy beliefs, and neighborhood social support networks emerged as the strongest predictors of home-based parental involvement. Neighborhood social support networks also emerged as the strongest predictor of school-based parental involvement. Importantly, once efficacy beliefs and social support networks were taken into consideration, none of the other sociodemographic variables were significant predictors of parental involvement. These findings suggest that factors such as a parent's motivational beliefs and/or strong social support networks may help parents to overcome barriers to involvement caused by life context variables. In regards to the importance of social networks, Waanders et al. noted that strong social support networks may create a feeling of community, "which paves the way for parents to expect social interactions within the school context as well" (p. 633). Sheldon (2002) found similar results in a study of 195 parents of elementary school students. The larger the parents' social network with other parents, the more the parents were involved at home and at school.

These prior research findings indicate that

it may be more important to focus on the factors that create a positive environment for involvement, rather than focusing purely on demographic variables (Green et al., 2007; Hoover-Dempsey & Sandler, 1995; Waanders et al., 2007). Based on this premise, we hypothesized that school-based parental involvement would be highest when parents perceived themselves to have the time and financial resources for involvement, but these life context variables would have less predictive power in predicting school-based involvement than the personal motivation of the parents, the positive climate of the center, and/or the existence of social support systems that encouraged school-based involvement.

The Current Investigation

The current study examined factors that predicted school-based parental involvement in an independently operated, nonprofit childcare center located in the Midwestern United States. The childcare center provided services for children ages 6-weeks- to 6-years-old. The center advertised itself as providing educational childcare in a community-like atmosphere that encouraged active parental involvement. However, at the time of the study, parent participation in center events and activities varied widely. The childcare center desired to better understand parental involvement at their center for three reasons. First, the center aspired to sponsor events that would help improve the educational and social outcomes of the children enrolled. Second, the center depended upon volunteers and fund-raising efforts to help maintain the center and to keep tuition costs down. Third, the financial viability of the center depended on year-to-year retention of families and word-of-mouth referrals from current parents. Center directors believed that the more parents felt involved with the center, the more that they would be likely to continue to enroll their child at the center and engage in word-of-mouth referrals.

Based on the Hoover-Dempsey and Sandler model of parental involvement (1995, 1997, 2005) we hypothesized that (a) school-based parental involvement would be highest among parents who believed that parental involvement was important (motivational beliefs). We predicted that (b) school-based parental involvement would be highest among parents who expressed satisfaction with the childcare center, had formed positive relationships with teachers at the center, and received specific invitations for involvement from teachers and staff (general climate). We believed that (c) school-based parental involvement would be highest among parents who had a strong general social support system and who had made friendships with other parents at the center (social support). Finally, we also hypothesized that (d) school-based parental involvement would be highest among parents who expressed having more time for involvement, more general time, and higher financial resources (life context).

Method

Participants

Participants included 43 mothers and fathers of infants, toddlers, and preschoolers attending a childcare center located in a suburb in the Midwestern United States[1]. Prior to collecting data, Institutional Review Board approval was received. To protect the confidentiality of the respondents, all data was collected anonymously after participants had read a statement of consent. Because some of the families at the center had demographic qualities that could make them readily identifiable, the IRB requested that we limit the amount of demographic information collected.

At the time of the investigation, the childcare center had approximately 55 children enrolled, representing about 50 families and 80 parents. Parents were recruited through the center's email distribution list, which included the email addresses of center parents. Each member of the family who played a significant and frequent role in the care of the children enrolled at the center was encouraged to complete a survey. Data were collected anonymously to ensure confidentiality. Parents were notified that in exchange for their participation, $2 would be donated to the Parent Partnership Association of the childcare center. Parents could complete the survey online using *Survey Monkey* or they could complete the survey in paper form. A conference room was provided at drop off time and pick up time for parents to complete the survey. The survey took approximately 15 min to complete.

In total, 43 parents completed the survey (27 women and 16 men). Thirty-seven respondents (86%) had one child enrolled at the childcare center, five parents (12%) had two children enrolled, and one parent had three children

[1] At the time of the investigation, the first author was a member of the parent partnership at the childcare center under investigation and had a child enrolled in the center. However, neither the first author, nor any of the other authors, had any financial or political stake in the childcare center. The first author did not participate in the survey.

enrolled at the center. A majority (91%) of the parents reported that at least one other adult was significantly involved in the home care of their child. Additionally, 95% of the parents reported working full time. Due to IRB restrictions on the collection of demographic information, we were not able to track which, if any, of the parents in the study belonged to the same household. In the materials and procedure section of this paper we discuss the active steps that we took to reduce issues of statistical dependence in the event that multiple parents of the same child completed the survey.

The age distribution of the children represented by the surveyed parents did not differ from the actual center demographics, $\chi^2(2) = 0.71$, $p = .70$. The actual center demographics included 34% infants, 30% toddlers, and 36% preschoolers. The children represented by the parents sampled included 34% infants (under the age of 2), 36% toddlers (2- or 3-years-old), and 30% preschoolers (4- to 6-years-old). In addition, 30% of the parents sampled reported that their family had joined the childcare center in the past year and 70% had joined the childcare center more than a year ago. This distribution did not differ from actual center demographics, in which 33% of the families had joined the center within the last year and 67% of the families had been with the center for more than a year, $\chi^2(1) = 0.15$, $p = .70$. Thus, the sample appeared to be adequately representative of the overall parent population at the center, at least in terms of the children's age distribution and length of time at the center.

Materials and Procedure

Each parent who had any contact with the center, no matter how minimal, was invited to participate in the survey. We allowed for the possibility of more than one parent of each child to complete the survey because we recognized that each parent may have differing levels of involvement and different reasons for that involvement. To reduce issues of statistical dependence, parents were instructed, "please indicate *your own personal involvement* in activities at the childcare center (if someone else in your family also attends these events, that person can also complete a survey)". Additionally, survey instructions and items were worded using the reference "I" instead of the reference of "my family" or "we" (see sample items as follows).

School-based parental involvement. We measured each parent's actual frequency of school-based involvement as well as their perceived adequacy of involvement.

Actual frequency of involvement. We measured the actual frequency of school-based parental involvement using a behavioral checklist. Each parent was presented with a list of all of the opportunities for school-based involvement that had occurred at the childcare center in the year prior to data collection. The parents indicated which events they had personally attended. In total, there were 60 opportunities for involvement including two welcome events, two parent-teacher conferences, nine educational events, 11 family meals, eight social events, 12 parents' night out events (a monthly fund-raiser and social event for the center), 10 parent partnership meetings, and six service days/fund raising activities.

Perceived adequacy of involvement. We also measured each parent's perceived adequacy of involvement by asking parents to rate on a 1 (*strongly disagree*) to 7 (*strongly agree*) scale the statement, "I feel that I am adequately involved in the activities/events at this childcare center."

Barriers to involvement. We measured perceived barriers to involvement in two ways. First, we created a checklist of seven factors that we believed might affect a parent's decision to become involved at the childcare center. Parents were asked to indicate which, if any, of the seven factors affected their ability to become more involved at the childcare center. Parents were able to select more than one response. The listed barriers included not interested in becoming more involved at the center, not interested in the events, child is not interested in the events, not aware that the events existed, do not have time, other activities take priority, and do not have the financial resources. Parents could also indicate if they already felt very involved at the center. Second, parents responded to an open-ended request, to "Please list any factors that affect your ability or motivation to become involved in activities/events at the childcare center."

Predictors of involvement. Based on the Hoover-Dempsey and Sandler (1995, 1997, 2005) model of parental involvement, we identified three classes of predictor variables: parents' motivational beliefs, center climate, and life context variables. Additionally, we investigated social support as a contributing factor. Hoover-Dempsey and Sandler (2005) provided existing scales that measured each of the constructs in their original model. Unfortunately, the scales tended to focus on home-based involvement activities (e.g., homework help) rather than school-based involvement and some of the

school-based involvement items were not appropriate for use with parents of preverbal infants and toddlers (e.g., "My child asked me to attend a special event at school."). Therefore, unless otherwise noted, we created our own items that more specifically focused on involvement factors at the infant, toddler, and preschool level. All of the items for these measures were rated by the parents on a 1 (*strongly disagree*) to 7 (*strongly agree*) scale.

Parent's motivational beliefs. We created six items that measured each parent's beliefs about the importance of becoming involved in activities sponsored by the childcare center. The scale showed adequate reliability (α = .83). Sample items included "It is important to me that I participate in social events sponsored by my child's daycare center" and "It is important to me that I volunteer my time at my child's daycare center."

Center climate. We measured three aspects of the center climate: satisfaction with the center, parent-center relationships, and invitations for involvement.

Satisfaction with the center. We created six index items that measured each parent's satisfaction with the center (α = .76; "I believe that it is worth the financial cost of tuition for my child to attend this childcare center." "I have serious concerns about whether this childcare center is the right childcare center for my child." [reverse coded]).

Parent-center relationships. We created nine items that captured positive parent-center relationships (α = .89; "I feel welcome at this childcare center." "I feel like I can communicate with my child's teachers.")

Invitations for involvement. We created five index items to measure the extent to which each parent received specific invitations to become involved at center events (α = .69; "I learn about center activities and events from my child's teacher." "I learn about center activities and events through email.")

Social support. We measured each parent's general social support as well as their specific connections with other parents at the school.

General social support. To measure general social support, parents rated six index items adapted from the Medical Outcomes Study Social Support Survey (Sherbourne & Stewart, 1991). Reliability for the present sample was adequate (α = .92; "I have someone that I can count on if an emergency arises." "I have someone with whom I can share my day to day worries.")

Parent-to-parent relationships. We created one item to measure relationships with other parents at the school: "I have made friends with other parents at this childcare center."

Life context. We measured three life context variables: time for involvement, general time, and financial resources.

Time for involvement. We created two items that measured each parent's time for involvement, $r(42) = .58$, $p < .001$. The items included, "I have adequate time to participate in center activities and events" and "Center activities and events for families are scheduled at times that I am available to attend."

General time. To measure time for general activities, parents rated three items adapted from the Family Resources Scale (Dunst & Leet, 1987). For the current sample, the scale had adequate reliability (α = .75; "I have adequate time to spend engaged in quality time with my family." "I have adequate time for my own personal hobbies and extracurricular activities.")

Financial resources. Parents rated one item based on their perceived financial resources; "I have adequate financial means to pay my bills and afford basic needs."

Results

School-Based Parental Involvement

The total number of events that parents reported being involved in ranged from 1 to 43 events, $Mdn = 15.00$, $M = 17.09$, $SD = 9.66$. Not surprisingly, parents who had been at the center for a longer period of time had a greater opportunity for involvement than parents who had been at the center for less time, $r(42) = .46$, $p = .002$. To create a measure of the frequency of events attended that was not affected by length of time at the center, we calculated the percentage of events attended in the time since the parent's child had joined the center. The actual frequency of the events attended varied between 3% and 77%, $Mdn = 33\%$, $M = 36\%$, $SD = 18\%$.

The perceived adequacy of involvement also varied considerably, with parents reporting a range of perceived adequacy of involvement from 1 to 7, $Mdn = 5.00$, $M = 4.65$, $SD = 1.63$. Interestingly, perceived adequacy of involvement was only moderately correlated with the actual frequency of involvement, $r(41) = .38$, $p = .01$. These results suggest that the parents who felt the most adequately involved were not necessarily the parents who attended the highest frequency of events. Given this, in our analysis of the predictors of school-based involvement, we decided to examine each parent's perceived adequacy of

involvement separately from their actual frequency of involvement.

Barriers to Involvement

To examine barriers to school-based involvement, we first examined responses to a checklist of seven factors that might affect a parent's decision to become involved at the childcare center. Forty parents indicated at least one of these barriers to involvement. The most common response was "do not have time" (30/40, 75%), followed by "other activities take priority" (15/40, 38%), "lack of finances" (6/40, 15%), "not aware of the events" (4/40, 1%), and "no desire to be involved" (3/40, 0.75%). No one selected "not interested in the events" or "child not interested in the events". Ten parents indicated that they already felt very involved at the center.

We next examined responses to an open-ended prompt asking parents to describe factors that affected their ability or motivation to become involved. Twenty-three parents provided written responses. These open-ended responses were coded using a card sort task. Sixteen members of a research methods class (including the authors of this paper) were divided into teams of two to three people each. Each team was given an envelope with a set of index cards that contained the parents' responses to the prompt. The teams sorted the cards into piles based on comments that seemed to share a common theme. If a parent's response included multiple themes, the group was asked to write each independent theme on a separate card and to sort those themes accordingly. Each response had to fit into one of the identified themes. Each team then wrote their themes on a white board. As a class, we discussed the various themes until we had identified and eliminated all redundancies. This discussion resulted in seven unique barriers to involvement that emerged from the written responses.

To determine the frequency of each barrier, we went through each of the participant's written responses and coded whether the parent indicated one or more of the seven barriers in the written response. Because the class members had used the original written responses to create the coding scheme, and the original coding scheme was exhaustive of all responses, all of the participants' responses were easily coded into one of the seven identified barriers.

Out of the twenty-three responses that we received, not having time to attend the events emerged as the major barrier to involvement (14/23, 61%). Other barriers to involvement included the need for better communication about the events (11/23, 48%), other activities taking priority (7/23, 30%), parents being reluctant to participate in activities that did not involve their child, because those activities took away from quality time that could be spent with the child (7/23, 30%), and not being aware of the events (3/23, 13%). One parent also mentioned that her child's allergies acted as a barrier to involvement and another parent mentioned lack of financial resources.

Predictors of Involvement

Table 1 provided the overall descriptive statistics for each of the major variables under consideration. We used one-way between-subjects ANOVAs to examine whether the actual frequency of involvement, perceived adequacy of involvement, motivational beliefs, satisfaction with the center, parent-center relationships, specific invitations for involvement, general social support, parent-to-parent relationships, time for involvement, general time, and financial resources differed based on parent sex, age of the oldest child at the center, and length of time at the center. When necessary, we used Tukey's HSD posthoc comparisons to examine the nature of the main effects. The results of the demographic analyses, including means and standard deviations, were summarized in Table 2. Table 3 summarizes the bivariate correlations between each of the predictor variables.

The fathers and mothers in the sample did not

TABLE 1

Overall Descriptive Statistics (*N* = 43)

Variable	Min	Max	*Mdn*	*M*	*SD*
Frequency Involve	3%	77%	33%	36%	18%
Perceived Involve	1.00	7.00	5.00	4.65	1.63
Beliefs	2.33	7.00	4.83	4.81	1.02
Satisfaction	4.33	7.00	6.17	6.15	0.65
Parent-Center	4.56	7.00	6.67	6.49	0.52
Invitations	3.20	6.40	4.80	4.82	0.87
Social Support	1.00	7.00	5.83	5.33	1.51
Parent-Parent	1.00	7.00	5.00	4.86	1.46
Time for Involve	1.00	6.00	3.50	3.79	1.34
General Time	2.00	7.00	4.00	3.94	1.34
Finances	3.00	7.00	6.00	5.74	1.27

differ from one another on any of the variables, *p*s > .05. Parents of infant children reported a lower actual frequency of involvement than parents of toddlers ($p = .008$, Cohen's $d = 1.21$) or preschoolers ($p = .05$, Cohen's $d = 0.89$), main effect, $F(2, 40) = 5.37$, $p = .01$; but these parents did not differ in their perceptions of their adequacy of involvement, $F(2, 40) = 1.55$, $p = .23$. Parents of infant children also reported fewer parent-to-parent relationships than parents of toddlers ($p = .01$, Cohen's $d = 1.13$) or preschoolers ($p < .01$, Cohen's $d = 1.78$), main effect, $F(2, 40) = 13.18$, $p < .001$. Parents of toddlers also reported higher levels of financial resources than parents of either infants ($p < .01$, Cohen's $d = 1.46$), or preschoolers ($p = .005$, Cohen's $d = 1.38$), main effect, $F(2, 40) = 8.20$, $p = .001$.

Parents whose children had been at the center for less than a year reported less perceived adequacy of involvement than parents whose children had been at the center for more than a year, $F(1, 41) = 3.98$, $p = .05$, Cohen's $d = 0.65$; however, these parents did not differ significantly in their actual frequency of involvement, $F(1, 41) = 2.54$, $p = .12$. Parents whose children had been at the center for less than a year also reported fewer invitations for involvement than parents whose children had been at the center for more than a year, $F(1, 41) = 4.46$, $p = .04$, Cohen's $d = 0.66$. And, parents whose children had been at the center for less than a year also reported fewer parent-to-parent relationships than parents whose children had been at the center for more than a year, $F(1, 41) = 11.23$, $p = .002$, Cohen's $d = 1.14$.

Perceived adequacy of involvement. Invitations for involvement, $r(42) = .35$, $p = .02$, parent-to-parent relationships, $r(42) = .43$, $p = .004$, time for involvement, $r(42) = .58$, $p < .001$, and general time, $r(42) = .35$, $p = .02$, were significantly correlated with perceived adequacy of involvement (see Table 3). To further examine these predictors, we conducted a multiple linear regression analysis using parent-to-parent relationships, invitations for involvement, time for involvement, and general time as simultaneous predictors of perceived adequacy of involvement. The model was significant, $F(3, 39) = 6.43$, $p < .001$, and explained 40% of the variance in perceived adequacy of involvement. However, when all four of the variables were treated as simultaneous predictors, only time for involvement was a significant predictor of perceived adequacy of involvement ($\beta = .37$, $p = .03$). Invitations for involvement ($\beta = .19$, $p = .16$), parent-to-parent relationships ($\beta = .16$, $p = .31$), and general time ($\beta = .16$, $p = .26$) were not significant predictors.

Actual frequency of involvement. Motivational beliefs, $r(42) = .46$, $p = .002$, parent-to-parent relationships, $r(42) = .33$, $p = .03$, and time for involvement, $r(42) = .43$, $p = .004$, were positively correlated with the actual frequency of involvement (see Table 3). To further examine these predictors, we conducted a multiple linear regression analysis using parent-to-parent relationships, time for involvement, and motivational beliefs as simultaneous predictors of the actual frequency of involvement. The model was significant, $F(3, 39) = 4.96$, $p = .005$, and explained 28% of the variance in the actual frequency of involvement. However, when all three of the variables were entered as simultaneous predictors of the actual frequency of involvement, only motivational beliefs significantly predicted involvement ($\beta = .32$, $p = .05$). Parent-to-parent relationships ($\beta = .12$, $p = .45$) and time for involvement ($\beta = .20$, $p = .28$) were no longer significant predictors.

Together, these results suggest that a parent's

TABLE 2

Demographic Analyses (*N* = 43)

	Parent Sex		Age of Oldest Child			Time at Center	
Variable	Men	Women	Infant	Toddler	Preschool	<1yr	>1yr
Frequency Involve	37.43 (14.24)	35.09 (19.80)	23.99 (14.77)[a]	43.34 (17.25)[b]	38.96 (16.24)[b]	42.42 (20.63)	33.17 (15.98)
Perceived Involve	4.94 (1.73)	4.48 (1.58)	4.00 (1.68)	4.87 (1.36)	5.00 (1.77)	3.92 (1.66)	4.97 (1.54)*
Beliefs	4.74 (1.06)	4.85 (1.01)	4.50 (0.87)	5.11 (0.97)	4.78 (1.17)	5.04 (0.95)	4.71 (1.05)
Satisfaction	5.98 (0.63)	6.25 (0.65)	6.00 (0.60)	6.14 (0.68)	6.28 (0.68)	6.04 (0.74)	6.19 (0.61)
Parent-Center	6.33 (0.59)	6.58 (0.45)	6.46 (0.44)	6.60 (0.44)	6.40 (0.64)	6.47 (0.46)	6.50 (0.54)
Invitations	4.76 (0.89)	4.86 (0.87)	4.72 (0.91)	4.93 (0.94)	4.80 (0.80)	4.42 (0.96)	5.00 (0.78)*
Social Support	5.19 (1.50)	5.41 (1.54)	5.29 (1.26)	5.51 (1.71)	5.17 (1.57)	5.58 (1.45)	5.22 (1.54)
Parent-Parent	4.94 (1.34)	4.81 (1.55)	3.62 (1.33)[a]	4.93 (0.96)[b]	5.87 (1.19)[b]	3.85 (1.21)	5.30 (1.34)*
Time for Involve	3.88 (1.19)	3.74 (1.44)	3.08 (1.15)	4.17 (1.19)	4.03 (1.46)	3.65 (1.42)	3.85 (1.32)
General Time	4.19 (1.34)	3.79 (1.35)	4.13 (1.48)	4.04 (1.52)	3.67 (1.05)	4.18 (1.44)	3.83 (1.31)
Finances	5.56 (1.59)	5.85 (1.06)	5.15 (1.34)[a]	6.67 (0.62)[b]	5.33 (1.23)[a]	5.69 (1.44)	5.77 (1.22)

Note. Values are presented as means (and standard deviations). There were no significant differences between the mothers and fathers, $p > .05$. For Age of Oldest Child, means with different letter subscripts (i.e., [a] or [b]) are statistically different from one another using the Tukey HSD correction to adjust for multiple comparisons, $p < .05$. For Time at Center, * $p < .05$.

reported time for involvement was most strongly associated with the parent's perceived adequacy of involvement, but it was the parent's motivational beliefs that were most strongly associated with the actual frequency of school-based involvement.

Discussion

The Hoover-Dempsey and Sandler (1995, 1997, 2005) model of parental involvement proposed that motivational beliefs, the general climate of the school, and life context variables affect parents' decisions to become involved in their children's education. We used this model of parental involvement as a guide to examine predictors of school-based parental involvement at a nonprofit childcare center that provided services for infants, toddlers, and preschoolers. Using a "barriers checklist" and parents' written comments, we found that lack of time, poor communication about events, other commitments, and a desire to not spend time away from their children, were the major barriers to school-based involvement. In terms of the quantitative data, invitations for involvement, parent-to-parent relationships, time for involvement, and general time emerged as significant correlates of perceived adequacy of involvement. However, in a multiple linear regression model, time for involvement emerged as the strongest predictor of perceived adequacy of involvement. Time for involvement was also a significant correlate of the actual frequency of events attended, as were parent-to-parent relationships and motivational beliefs. But, it was motivational beliefs that emerged as the strongest predictor of the actual frequency of school-based involvement in a multiple regression analysis.

These results indicated that time for involvement was the most salient barrier to parental involvement and the strongest predictor of a parent's perceived adequacy of involvement. But, parents' motivational beliefs emerged as the strongest predictor of parents' actual frequency of involvement. The fact that motivational beliefs were the strongest predictor of a parent's actual frequency of involvement is particularly interesting given that parents did not spontaneously mention their motivational beliefs when listing factors that affected their school-based involvement, nor did parents' motivational beliefs correlate with parents' perceived adequacy of involvement. These results suggest that parents may not be aware of the extent to which their motivational beliefs are associated with their actual levels of school-based involvement

Of course, based on the current results, one cannot conclude that motivational beliefs cause a parent to become more involved in school-based activities. Due to the correlational nature of the data, the possibility exists that motivational beliefs are outcomes of school-based parental involvement, rather than precursors to involvement. In addition, more complex causal paths may exist to explain parental involvement at the infant, toddler, and preschool level. For example, time for involvement emerged as the number one reported barrier to involvement and it was the strongest predictor of parents' perceived adequacy of involvement. It may be the case that perceived time for involvement plays an important role in determining parents' motivational beliefs. Similarly, parent-to-parent relationships emerged as a significant correlate of parents' perceived adequacy and actual frequency of involvement. Perhaps strong social networks with other parents also help to strengthen parents' motivational beliefs (Sheldon, 2002; Waanders et al., 2007). Future research should focus on examining the complex causal associations that may exist between parental involvement, a parent's motivational beliefs, the center climate, and life context variables.

One important limitation of the current study is that we had a small sample size. Any null findings within our statistical results must be interpreted

TABLE 3

Correlation Table (N = 43)

Variable	1	2	3	4	5	6	7	8	9	10
1. Frequency Involve	1.00									
2. Perceived Involve	0.38*	1.00								
3. Beliefs	0.46**	0.22	1.00							
4. Satisfaction	0.16	0.10	0.08	1.00						
5. Parent-Center	-0.02	0.14	0.28	0.55**	1.00					
6. Invitations	0.17	0.35*	0.12	0.40**	0.37*	1.00				
7. Social Support	0.14	0.25	0.28	-0.03	0.06	0.10	1.00			
8. Parent-Parent	0.33*	0.43**	0.30*	0.12	0.02	0.25	0.06	1.00		
9. Time for Involve	0.43**	0.58**	0.52**	0.22	0.15	0.29	0.28	0.55**	1.00	
10. General Time	0.12	0.35*	0.09	-0.05	0.01	0.09	0.46**	0.15	0.41**	1.00
11. Finances	0.29	0.24	0.19	-0.02	0.11	0.35*	0.27	0.20	0.18	0.26

* $p < .05$, ** $p < .01$

with caution, as the null findings could have occurred due to low statistical power, rather than due to the absence of an effect. In addition, the parents in our study reported relatively high agreement to the statement "I have adequate financial means to pay my bills and afford basic needs" and they reported high levels of satisfaction with the childcare center and positive parent-center relationships. The results of the current study are likely to be most applicable to financially stable parents of very young children who are satisfied with their child's childcare center. Our results may not generalize to other populations.

Parents who opted to complete the survey may have differed in important ways from parents who did not complete the survey. Given our emphasis on parental involvement, a response bias would be particularly troubling if our sample overrepresented parents who were involved at the center versus parents who were not involved. Fortunately, a number of analyses help to mitigate this particular concern. First, our sample of parents varied from one another considerably in the amount of parental involvement (3% to 77% of the events) and the parents in our sample used the entire range of response options when rating their perceived adequacy of involvement. Second, the demographics of the parents who completed the survey matched the reported demographics of the childcare center in terms of the age distribution of the children and the length of time at the center. If there was a major sampling bias present within our study, the bias was not strong enough to create a restriction of range problem within our measures of school-based parental involvement, nor was the bias strong enough to significantly skew the representativeness of our sample in terms of age distribution or length of time at the center.

Despite these limitations, we believe that our study offers a number of contributions to the literature. Few studies have examined predictors of parental involvement at the infant, toddler, and preschool level, and most of the existing research focused on low-income or at-risk preschool-aged children (Arnold et al., 2008; Cooper et al., 2010; Mendez, 2010; Waanders et al., 2007). Our study contributed to the literature by further examining predictors of school-based involvement among parents of infants, toddlers, and preschoolers, most of whom were not low-income or at-risk. Our focus on school-based parental involvement was also unique, because most other research focused on the infant, toddler, and preschool level has focused on home-based parental involvement and/or parent-teacher relationships. A focus on school-based parental involvement is important as childcare centers often rely on parents for volunteer work, fund-raising efforts, and shared governance (Leviten-Reid, 2010).

The results of our study were also consistent with the Hoover-Dempsey and Sandler (1995, 1997, 2005) model of parental involvement and help to extend this first level of the model to the infant, toddler, and preschool level. We found that motivational beliefs, specific invitations for involvement, parent-to-parent relationships, and lack of time were correlated with perceived adequacy and/or actual frequency of parental involvement. Importantly, the parents' motivational beliefs emerged as the strongest predictor of parents' actual frequency of involvement. An implication of these findings is that childcare centers may need to do more to strengthen parents' beliefs about the importance of involvement.

Based on the results of the current study, we recommend that childcare centers foster motivational beliefs in the following ways: (a) foster parents' motivational beliefs about the importance of making time for involvement; (b) be mindful of family time and design student-family activities that allow parents to spend quality time with their children; (c) design school-based parental involvement opportunities that allow parents to develop a strong social support network with other parents; and (d) clearly communicate about involvement opportunities.

Foster Motivational Beliefs About the Importance of Making Time for Involvement

Parents' motivational beliefs emerged as a stronger predictor of actual school-based involvement than parents' time for involvement. However, time for involvement emerged as the number one reported barrier to involvement and it was the strongest predictor of parents' perceived adequacy of involvement. It may be the case that perceived time for involvement plays an important role in shaping parents' motivational beliefs. Efforts to strengthen motivational beliefs should focus on increasing perceptions that it is important to make the time to become involved in childcare-sponsored events.

Be Mindful of Family Time and Create Student-Family Activities

School officials should also be mindful of the numerous constraints on family time and how

those time constraints can affect parents' beliefs about the importance of involvement. Thirty percent of the parents within our study indicated that they were hesitant to become more involved with the childcare center, because they did not want to participate in activities that would take away quality time with their children. Walker, Shenker, and Hoover-Dempsey (2010) suggested that schools increase parental involvement by organizing student-family activities that allow parents to become involved at the school, while at the same time spending quality time with their children. Childcare centers may also want to focus their programming efforts on a few high quality programs, rather than saturating parents with numerous involvement opportunities. In the current investigation, the childcare center had offered 60 different events throughout the year. Participation rates may have been higher had programming efforts been more focused.

Create Events That Foster Parent-to-Parent Relationships

Another tactic for increasing a parent's motivational beliefs may be to highlight that becoming involved in childcare sponsored events can create opportunities for parents to form friendships with other parents at the center. Within our study, parent-to-parent relationships were a significant correlate of perceived adequacy and actual frequency of involvement; although these finding did not hold when perceived time and motivational beliefs were taken into consideration. Sheldon (2002) suggested that friendships with other parents may create an environment in which parents are kept informed of opportunities to participate and encouraged to become involved. Waanders et al. (2007) also noted that strong social support networks may help to create an expectation of school involvement. Encouraging parents to form friendships with other parents at the childcare center could serve to strengthen a parent's beliefs about the importance of becoming involved at the childcare center.

Clearly Communicate About Involvement Opportunities

Finally, efforts to strengthen a parent's motivational beliefs may not matter if the parent is not aware of the opportunities to become involved at the childcare center. In our analysis of parents' written comments, we found that the need for additional communication about the events emerged as the second most common barrier to involvement (with lack of time emerging as the most common barrier to involvement). Hoover-Dempsey and Sandler (1995, 1997, 2005) theorized that specific invitations for involvement may be a means by which educational programs can create a climate conducive for parental involvement. Walker et al. (2010) also suggested that schools can train liaisons to reach out to families. Schools should also work to create a welcome and comfortable environment that communicates to parents "we all belong here" (p. 34).

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Gendered Feelings of Power and Helpfulness

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ABSTRACT. Implicit social cognition research has shown that power promotes action-taking. Yet, power also reduces perspective-taking, a cognitive function associated with prosocial behavior. This experiment investigated the effect of power primes on helpfulness. The researchers hypothesized that participants primed with high power would be less helpful, on average, than those primed with low power. Fifty-nine college students were randomly assigned to either the high or low power condition and were asked by one of the two researchers to write about a personal experience related to power. The study gave participants (n = 59) two opportunities to help: donating earnings from the study to charity and picking up pencils spilled by the other researcher. The results showed no significant main effect for power or gender on either measure of helpfulness. There was, however, a significant interaction in a 3-way ANOVA between power prime, gender, and researcher in the role of pencil-dropper on helping with the pencils, $p = .007$, $\eta_p^2 = .14$. There was also a significant interaction between power and gender on helping with the pencils, $p = .008$, $\eta_p^2 = .14$. Results are discussed in terms of action-taking and gender role expectations. These findings illustrate the necessity of examining gender when looking at how power affects behavior because power can elicit different mental states and emotions in men and women.

Is someone in a position of power as likely to lend a helping hand than someone without that same level of power? Common sense might tell us that possessing power makes it easier to help, perhaps even make it one's responsibility to help. Common sense might also tell us that being in a position of power might make it harder to help, perhaps even leading one to disregard others. We explored an answer to this question through an implicit social cognition experiment that primed participants with power mindsets and then measured participants' helping behavior.

When people are asked why they do what they do, they are generally able to give a reasonable answer. It is likely, however, that these self-reported responses do not entirely represent the real reasons for actions. In fact, outward behavior can often be driven by factors completely outside of awareness (Bargh & Williams, 2006). This may be because people do not have access to thoughts and, therefore, cannot articulate them, or because people desire to think that actions always are guided by socially-acceptable motivations. Psychological research in the field of implicit social cognition has shown that a wide range of social behaviors are affected, and even produced, by unconscious factors such as mindsets, beliefs, and attitudes (Greenwald & Banaji, 1995; Uhlmann, Pizarro, & Bloom, 2008). The extensive empirical support of these implicit effects demonstrates that there is a vast world of mental processing to which we do not have direct conscious access that still can impact our behavior in meaningful ways.

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The phenomena related to implicit cognition often have been studied through the use of priming techniques, such as the unconscious exposure to a certain stimuli (e.g., words, ideas or concepts) followed by the indirect measurement of behavior(s) to ascertain any implicit effects (Bargh & Pietromonaco, 1982; Bargh & Williams, 2006; Cameron, Brown-Iannuzzi, & Payne, 2012; Galinksy, Gruenfeld, & Magee, 2003; Greenwald & Banaji, 1995; Payne & Gawronski, 2010). Priming allows researchers to study phenomena that may affect people at unconscious, inaccessible levels. The use of mindset priming takes this experimental manipulation a step further by asking participants to actively recall or imagine a specific experience, thereby enhancing and prolonging any effects of the prime (Gollwitzer, Heckhausen, & Steller, 1990). This research into implicit social cognition has shown how previous experiences and current mindsets can unconsciously affect our behavior.

Power

Power is important to social interaction. The concept of power specifically relates to people, possibly in positions of authority, who can control resources without social interference (Fiske, 2010; Galinsky et al., 2003; Keltner, Gruenfeld, & Anderson, 2003). There are a variety of theories surrounding the effects of power (Brauer & Bourhis, 2006). Although power has been studied in a number of ways in the field of social psychology, implicit social cognition research on power has focused on how individuals' social positions and power mindsets might implicitly affect their social behavior. For example, one study showed that different power motivations, socialized versus personalized, led to different outcomes (Magee & Langner, 2008). Specifically, socialized (other-serving) power motivations led to more deliberation and more prosocial outcomes, and personalized (self-serving) motivations led to less deliberation and more antisocial outcomes (Magee & Langner, 2008).

Power mindsets result in a variety of often conflicting interpersonal behaviors (Galinsky et al., 2003; Galinsky, Magee, Inesi, & Gruenfeld, 2006; Magee & Langner, 2008). One major implicit mindset that power can impact is action-taking. The possession of situational power and even the priming of high power mindsets have been shown to lead to goal-orientations and, thus, more action-taking (Galinsky et al., 2003). Another major implicit mindset is perspective-taking.

Perspective-Taking and Prosocial Behavior

Power has been shown to increase self-interested behavior and thus reduce perspective-taking (i.e., the cognitive ability to be aware of and take on others' perspectives; Galinsky et al., 2006). Perspective-taking may play a role in prosocial behavior. A person exhibiting reduced perspective-taking may be unaware that another person needs help, as well as be less likely to empathize, perhaps leading to reduced prosocial behavior. Underwood and Moore (1982) showed that social perspective is correlated with generosity, thus a person who takes on the viewpoints of others is more likely to be supportive of a social cause, such as a charity. Coke, Batson, and McDavis (1978), proposed a two-stage model of prosocial behavior and found that perspective-taking leads to empathy and empathy leads in turn to helping behavior. In other words, people may be more inclined to help each another when they are socially aware because they may be empathic to each other's needs.

Another factor that may affect prosocial behavior is money. Money primes have been shown to reduce prosocial behavior and to prompt people to spend more time alone rather than be socially intimate in proximity to others (Vohs, Mead, & Good, 2006, 2008). In an experimental setting, confederates dropped pencils to examine participants' prosocial behavior (i.e., picking up pencils). Participants primed with more money picked up fewer pencils than participants primed with less money and those in the control group (Vohs et al., 2006). Additionally, participants primed with money donated less money to charity than participants not primed with money.

In implicit social cognition research, prosocial behavior is most often measured behaviorally in terms of helping to complete a task (e.g., Vohs et al., 2006, 2008). Helping can be categorized into two types: nonspontaneous and spontaneous helping (Benson et al., 1980). It has been found that each type of helping is impacted by different personal and situational factors. For example, personal traits are more likely to influence nonspontaneous helping, such as volunteer work, and situational factors are more involved in affecting spontaneous helping, such as helping a stranger (Benson et al., 1980). Spontaneous helping is often examined in social psychology research because it captures a person's immediate behavior in a situation. The current study measured helping in a staged experiment where the participants had two spontaneous opportunities to help.

Gender

Societal power structures of gender influence experiences of power and decisions of whether and how to help others (Carli, 1999; Eagly, 2009; Haines & Kray, 2005; Keltner et al., 2003; Keshet, Kark, Pomerantz-Zorin, Koslowsky, & Schwarzwald, 2006). Previous research on gender (defined as participants' classification as a man or woman) and prosocial behavior documents differences in how women and men help others (Eagly, 2009). This helping behavior is often consistent with gender roles expectations; women tend to be prosocial in a caring, interdependent, communal way, but men tend to be prosocial in an agentic, independent, collective way (Eagly, 2009). Examinations of power and gender have mostly consisted of looking at differences in men's and women's access to and types of social power (Carli, 1999) and their respective strategies of social influence related to gender expectations (Keshet et al., 2006). There has been research into how access to power can change women's explicit and implicit self-concepts, in that self-identification with terms such as dominant and masculine increased for women who had been randomly assigned to a socially powerful group (Haines & Kray, 2005). The findings from research into gender and power indicate the importance of understanding how these variables are intertwined.

These findings led us to ask if men and women who recall being in positions of power would be more likely to help someone else, perhaps because they would take action, or if people primed with feelings of power would be less likely to help another because they would be less able to take on the perspective of the person needing help. The conflicting perspectives that feelings of having power can influence a person to become more self-aware, goal oriented or agentic, but can also decrease a person's awareness of others, were explored in the current study.

Given the close association between money and power, we wanted to look at whether men's and women's helping behavior via money was similarly impacted by recalling feelings of power. Because power and helpfulness are largely situational variables, we designed an experiment where we could study the two together. Therefore, this study examined the relationship between being primed with feelings of power and helpfulness by mirroring a study that used money primes in examining prosocial behaviors (Vohs et al., 2006).

Current Study

Our study examined the impact of being primed with feelings of power on prosocial behavior by priming high power and low power mindsets in participants (Galinsky et al., 2003; Galinsky et al., 2006) and then measuring their helpfulness in two subsequent situations. Participants were given two opportunities to help: donating earnings from the study to charity and picking up pencils spilled by a confederate (Vohs et al., 2006). Given the involvement of perspective-taking in helping behavior, we expected high power primes to reduce helpfulness. We hypothesized that participants, both men and women, primed with high power would be less helpful, donating less money and picking up fewer pencils on average, than those participants in the low power condition. We anticipated that the recollection of power would override men's and women's approaches to helping.

Method

Participants

Sixty college students agreed to participate in the experiment. One participant was excluded for not following instructions and two participants were excluded due to suspicions about both dependent measures ($n = 57$). Two additional people were excluded from analyses on the dependent helping measure of money because they were suspicious and two more were excluded because they had missing data ($n = 53$ for the money analysis). One person was excluded on the pencil dependent measure because they were suspicious ($n = 56$ for the pencil analysis). The current sample consisted of 16 men (28%) and 41 women (72%). This gender ratio in the study reflects fewer men to women than the university at large, but more men to women than in the psychology program. Ages ranged from 18 to 51, with a mean of 21.37 years of age ($SD = 5.28$). The participants in this study represented a range of grade levels: 15 first-year students (26%), 14 second-year students (25%), 14 third-year students (25%), 12 fourth-year students (21%), and 2 other (4%). Information regarding the ethnicity of the students was not collected.

Sampling Procedures

Participants were recruited on the campus of a small, private, urban university in the western United States via flyers, class announcements, and word of mouth. It was advertised that participants would earn $2 for their participation. The purpose of the study was advertised as "experiential memory

processing levels and associations." The title was intended to be vague and to conceal the real purpose of the study. This deception was deemed necessary, given the social desirability of helpfulness and the aim to examine the implicit, and thereby unconscious, effect of power on behavior. The experiment was part of the first two authors' honors project. The university's Institutional Review Board approved the study (FY2011-023) prior to recruitment.

Design

The experiment used a between-subjects design. The manipulated independent variable was primed power mindset, high or low. The two dependent variables of helping were (a) the amount of earned money donated to a charity and (b) the number of spilled pencils picked up (Vohs et al., 2006).

Materials

Participants were asked to complete a power mindset prime to achieve high or low power priming (Galinsky et al., 2003). Participants in the high power condition received these written instructions:

> Please recall a particular incident in which you had power over another individual or individuals. By power, we mean a situation in which you controlled the ability of another person or persons to get something they wanted, or were in a position to evaluate those individuals. Please describe this situation in which you had power—what happened, how you felt, etc. (Galinsky et al., 2003, p. 458)

Participants in the low power condition received these instructions:

> Please recall a particular incident in which someone else had power over you. By power, we mean a situation in which someone had control over your ability to get something you wanted, or was in a position to evaluate you. Please describe this situation in which you did not have power—what happened, how you felt, etc. (Galinsky et al., 2003, p. 458)

Participants were also asked to complete a word association exercise. The researchers designed this task for the sole purpose of keeping the participant busy, and consisted of 30 fill-in-the-blank sentences (e.g. The ___ is orange; The dog jumped on the ___).

Procedure

The first and second authors traded-off playing the roles of the experimenter and the confederate (i.e., pencil-dropper). The experimenter met the participants and took them through the study, while the pencil-dropper waited in an adjacent room, observing through a two-way mirror.

Participants were scheduled for individual sessions through email. After giving consent, participants were asked to complete a writing prompt, which was a randomly assigned power mindset prime taken from Galinsky et al. (2003). Participants assigned to receive the high power prime were instructed to recall and write about an experience in which they had power over another person. Participants assigned to receive the low power prime were instructed to recall and write about a time in which someone else had power over them. Participants were asked to respond as thoughtfully as possible and were told that they had as much time as they needed to complete the writing prompt, which had nineteen lines on the page. The experimenter remained in the room seated with books and materials on her lap in a chair perpendicular to and behind the participant.

After completing the writing prompt, participants were told to complete a word association exercise (i.e., filler task). Once the participant began this task, the pencil-dropper, who was observing behind a two-way mirror, took this as her cue to enter the room. After knocking, she immediately entered the room where the participant was working. She acknowledged the researcher across the room and appeared apologetic for interrupting the research session. She was carrying several large books, a large shoulder bag and a cup of pencils, ostensibly bringing supplies to the experimenter. As she started toward the experimenter, she pretended to trip and spilled 25 pencils on the floor next to the participant. She exclaimed and apologized, then continued a few feet across the room delivering the arm full of books to the experimenter, and setting her bag down on a nearby chair. Next she returned to where the pencils had been spilled. If the participant was in the process of helping pick up pencils, the pencil-dropper would kneel, beginning to collect those pencils farthest away. If the participant did not help, the pencil-dropper would pick up all the pencils. All pencils were then handed to the experimenter, who discreetly counted and recorded the number picked up by the participant. The pencil-dropper exited the room, and the participant continued to

work on the filler task.

Upon completion of the filler task, the experimenter thanked the participant for participating and then paid the participant $2 in quarters. At this point, participants also filled out a receipt. The experimenter then received a staged phone call, which she explained she needed to take and hurried to leave. On her way out, the experimenter mentioned that the participant could donate to the United Way donation box, which was in the room by the door. The United Way was chosen because it supports a variety of causes and is especially well-known on campus. The experimenter then exited the room, closing the door behind her, providing the participant with a private opportunity to donate. The experimenter approached the participant as he or she left the experiment room and asked him or her to complete a demographic sheet including participant sex, age, and year in school. Participants were screened for knowledge of the variables and then debriefed. No participant expressed distress, but several were suspicious about the dependent measures and were excluded from the analyses (please see Participants section).

Results

Preliminary analyses were conducted to assess normality. The Kolmogorov-Smirnov test of normality showed that the dependent helping variables, amount of money donated, ($D = 0.36$, $p < .001$), and number of pencils picked up, ($D = 0.42$, $p < .001$), were not normally distributed. A logarithm transformation was performed on both of these variables to achieve normal distributions. However, these transformations did not affect the results, so for the sake of clarity, the original variables are referred to throughout.

One-way between-groups ANOVAs showed that the variables of time of day, day of week, and participants' year in school did not have a significant impact on either of the dependent variables. Preliminary regression analysis also showed that age did not significantly predict helping with money, $F(1, 55) = 1.16$, $p = .34$ or helping with pencils, $F(1, 56) = 1.17$, $p = .33$.

Pencils

A 2 (power) x 2 (gender) x 2 (researcher) between-groups ANOVA was conducted. We planned this analysis because there were two pencil-droppers, both women, with possible differing levels of consistency in the pencil drops and differing heights. We did not find a statistically significant main effect for power on the number of pencils picked up, $F(1, 48) = 1.14$, $p = .29$, $\eta_p^2 = .02$. Thus, our hypothesis that participants primed with high power would pick up fewer pencils than those primed with low power was not supported. Nor did we find a statistically significant main effect for gender, $F(1, 48) = 0.98$, $p = .33$, $\eta_p^2 = .02$; overall men and women did not differ on the number of pencils picked up. The interaction between power and gender was significant, $F(1, 48) = 7.77$, $p = .008$, $\eta_p^2 = .14$, suggesting that in the high power condition, women picked up more pencils, on average, than men, but in the low power condition, men helped pick up more pencils, on average, than women (see Figure 1). However, who the pencil-dropper was affected the power and gender relationship, $F(1, 48) = 8.08$, $p = .007$, $\eta_p^2 = .14$. Based on this, the data file was split to examine the interactions between power and gender by the researcher playing pencil-dropper.

A two-way ANOVA showed that when Researcher A played the role of pencil-dropper, there were no significant main effects and there was not a significant gender and power interaction for helping pick up pencils, $F(1, 22) < .01$, $p = .97$, $\eta_p^2 < .001$ (see Figure 1). However, when Researcher B played the role of pencil-dropper, although there were no significant main effects, there was a significant gender interaction, $F(1, 26) = 13.65$, $p < .01$, $\eta_p^2 = .34$ (see Figure 1). The gender and power interaction for helping with pencils showed that, in the high power condition, women helped pick up more pencils ($M = 8.50$, $SD = 8.01$, $n = 12$) than men ($M = 0.00$, $SD = 0.00$, $n = 3$) and, in the low power condition, men helped pick up more pencils ($M = 9.60$, $SD = 9.10$, $n = 5$) than women ($M = .40$, $SD = 1.27$, $n = 10$). Men and women were equally dispersed across power conditions and researcher groups; thus, although there were fewer men in the study, they were split evenly among conditions.

Money

Because there was no reason to expect any researcher differences on the donation variable, we planned a 2 (power) x 2 (gender) ANOVA to examine the impact of power and gender on helpfulness as measured by money donated. There was not a statistically significant main effect for power on the amount of money donated, $F(1, 51) = .02$, $p = .89$, $\eta_p^2 < .001$. Thus, our hypothesis that participants primed with high power ($M = \$0.39$, $SD = \$0.73$, $n = 26$) would donate less than those

primed with low power was not supported (M = \$0.53, SD = \$0.74, n = 29). There was also no statistically significant main effect for gender, $F(1, 51) = 1.41$, $p = .24$, $\eta_p^2 = .03$. Men (M = \$0.30, SD = \$0.68, n = 16) and women (M = \$0.53, SD = \$0.75, n = 39) did not significantly differ on the mean amount of money donated. In addition, the interaction effect between power and gender on the amount of money donated was not statistically significant, $F(1, 51) = 3.79$, $p = .06$, $\eta_p^2 = .04$. Using G*Power® (Faul, Erdfelder, Lang, & Buchner, 2007) to run a posthoc power analysis, power was .11, reflecting the challenge of finding significant results with a small sample size.

Discussion

We investigated whether men's and women's helping behavior would be affected by primes. Participants were primed with recollections of feeling powerful or powerless and given the opportunity to help by donating money to charity and picking up pencils spilled by a confederate (Vohs et al., 2006). We expected high power primes would reduce helpfulness more in men and women than those with low power primes. However, there were no main effects of the power primes on either the amount of money donated to charity or the number of pencils picked up. These findings did not support the hypothesis that high power primes would reduce helpfulness for both men and women. We note that our low N, particularly in some cells, reduced the power to detect what may be meaningful differences.

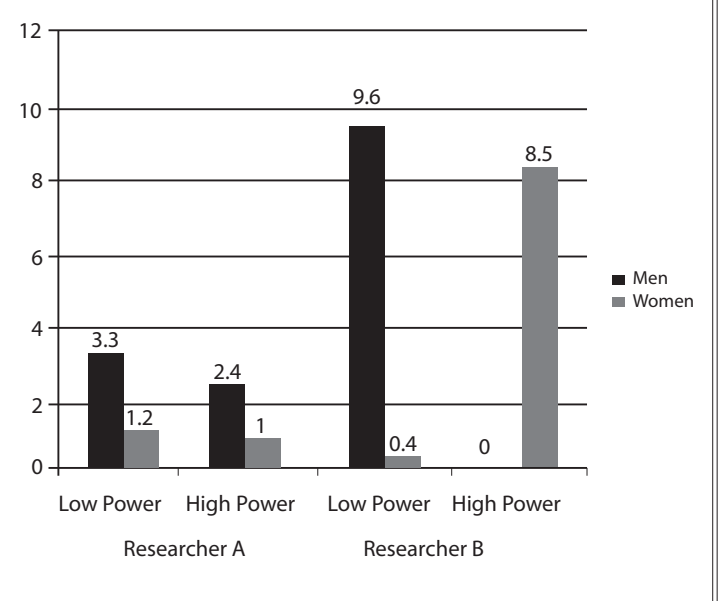
Nonetheless, a significant three-way interaction between gender, power, and researcher was found for helping to pick up pencils. For the researcher who both experimenters agree was the better, more consistent pencil-dropper, women picked up more pencils, on average, than men in the high power condition, whereas men picked up more pencils, on average, than women in the low power condition. This significant relationship between gender and power may have occurred because being primed with power can reduce or promote action-taking, (Galinsky et al., 2003), and provokes theories about power and societal gender roles (e.g., Carli, 1999; Carli & Eagly, 2001; Haines & Kray, 2005).

Participants bring certain mindsets, beliefs, past experiences, and schemas into the room with them. We think that the gendered life experiences of the participants may have influenced how they were affected by the power mindset prime and also how they responded to the situation with the spilled pencils because there was no effect found when gender was not included. Based on the greater lack of societal access to power for women (Carli & Eagly, 2001) and the gendered associations of power with masculinity (Haines & Kray, 2005), it is possible that women came into the experiment with more of an association with low power and men came into the experiment with more of an association with high power. This means that participants already had a pre-existing association with power, based on societal access to power and gender role expectations, and the power mindset prime either confirmed this association or created dissonance (Kray, Thompson, & Galinsky, 2001).

It is this dissonance that we think created more action-taking with the pencils and, thereby, more helping in the situation. That is, when the experience recalled and written about in the power prime confirmed participants' pre-existing associations with power, there was little to no action-taking, and thereby little to no helping, in the spilled pencil situation. However, when the experience recalled and written about in the power prime was dissonant with participants' pre-existing associations with power, there was a great deal of action-taking (helping) in the spilled pencils situation. Based on the difference in access and association to power by gender, we think that the dissonance led to

FIGURE 1

Mean Number of Pencils Picked up When Each Researcher was the Pencil-Dropper



action-taking in different ways for men and women. For women in the high power condition, it is possible that the dissonance between a pre-existing association with low power and the mindset of high power led to the positive empowerment to take action. For men in the low power condition, it is possible that the dissonance between a pre-existing association with high power (importantly tied to cultural understandings of masculinity) and the mindset of low power led to reactance (Kray et al., 2001). This implicit experience of having power taken away, in a sense, may have led to reactionary action-taking.

The relationship between gender and power was only significant when one, but not the other, researcher was playing the pencil-dropper. We attribute this finding to researcher variability. Upon reviewing notes when Researcher A and Researcher B were each the pencil-dropper, there appeared to be inconsistencies in the pencil drop. When Researcher A was the pencil-dropper, there was more variability in the location of the drop. However, when Researcher B dropped the pencils, the location of the drop was consistent. Researcher B always dropped the pencils close to the participant, approximately within two feet, and parallel yet slightly in front of the participant next to the table on which the participant was working. However, when Researcher A dropped the pencils, the drop was not as consistently in this ideal drop area but rather slightly behind the participant and slightly out of the participant's line of sight. We believe that when the pencil drop did not occur in the ideal area, the participants might have felt less compelled to help because the drop did not occur within their immediate vicinity. We also believe that the participant may have been less aware of the pencil drop when it occurred out of their visual field. In future research, additional videotaped practice could help reduce any pencil-dropping variability, as well as assess any other experimenter behaviors that could affect participants' responses. It was when the pencils were spilled in the ideal drop area that we see the significant effect of power and gender on the pencil helping variable.

Beyond issues of low power, a possible explanation for the lack of significant results for the charity donation measure is the reduced effect of the power prime over time. The opportunity to donate came much later than the opportunity to help with the pencils, and thus, the effect of the mindset prime might have dissipated by the end of the experiment. The length of time was especially long for those participants who slowly completed the filler task. We did not hurry participants nor measure the amount of time spent on the filler task; thus further exploration of this explanation is not possible. Another possible explanation is the money given to pay participants. Participants were paid in quarters to allow for a continuous measure of helping. Many participants commented that the $2 in quarters would be useful laundry money. It might be that the form of payment in quarters had an unintended effect on whether participants decided to donate, given that the sample consisted entirely of college students for whom quarters might have held value as the currency needed for washing clothes at laundry facilities. Additionally, it is very possible that the presence of the money itself acted as a secondary prime that offset the power mindset prime. Vohs et al. (2006) showed that priming participants with money reduced helpfulness.

Limitations and Future Research

A limitation of this study was the small sample size and the resultant lack of power. The current study included 57 participants, randomly assigned to high and low power conditions. This small sample did not allow for the inclusion of a control group that would have provided us with more confidence in our explanation of the power experience in men and women. More participants may also have led to more men in each condition. Our sample had few men, making men's means less reliable. Although the smaller proportion of men in the sample follows the gender ratio of 1 to 4 for men and women in the university's psychology program from which many participants were recruited, our future research efforts should attempt to oversample men.

Further research also should examine the effect of in-group versus out-group helping in relation to gender. Participants in this study may have been more or less inclined to help based on their own gender, as well as the gender of the pencil-dropper. For example, Stürmer, Snyder, and Omoto (2005) found that volunteers helping in-group members were more affected by empathy, but volunteers helping out-group members were impacted by interpersonal attraction. Additionally, Bilewicz (2009) found that a person may be likely to help a member of the out-group if he or she takes on the perspective of that person. Future research should, therefore, use combinations of male and female experimenters and pencil-droppers to reflect men's and women's out-groups. Additional

information could also be gained about power relations to others by using various combinations of gender and ethnicity of experimenters and pencil-droppers.

Conclusions

In this study, there was a difference in the way that men and women experienced and were affected by power. Women who thought of an empowering time from their past were more helpful than men reflecting on such a time, whereas men who thought of a time in which they did not have power were more helpful than women remembering such an experience. In other words, women helped more when they were empowered, whereas men helped more when they were not.

If power can impact women's and men's helping behavior in different ways, it is important to consider how positions and situations of power could affect men's and women's behavior in educational, governmental, and social service settings. Redistributing power among men and women may have the potential to increase prosocial behavior within society.

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Facebook as a Mechanism for Social Support and Mental Health Wellness

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ABSTRACT. The Internet has become increasingly popular as a source of news, entertainment and communication over the last 2 decades. Online social networks, such as Facebook®, are especially popular with college students; 9 out of 10 have a social account and average 47 min of screen time per day interacting with others (Sheldon, 2008). The present study sought to determine whether the use of Facebook constitutes a perceived social support for college students. Higher perceived levels of social support were found for frequent Facebook users as compared to low frequency users $t(125) = 9.82$, $p < .001$, estimated power .87. Frequency of social media was also related to wellness and perceived relationship with family. Geographic distance from home, years in college, and sex were not related to the use of the online social network. Implications for future research in the area of online usage and wellness are discussed.

In 1998, only about 40% of U.S. homes had personal computers, and only about a third of those had access to the Internet (Kraut, Patterson, Lundmark, Kiesler, Mukopadhyay, & Scherlis , 1998). Kraut and colleagues (1998) found significant relationships between Internet use and family communication, loneliness, and depression. However, early studies did not show positive outcomes from Internet use. In fact, they showed a decidedly negative impact. Kraut and colleagues' 1998 longitudinal study of the first one to two years of online access for 73 families (169 individuals) found no beneficial correlations. Because no evidence for associations between the Internet and wellness were found, researchers expressed general concerns about Internet usage. As a result, a predominant cautionary view of Internet use persisted for several years.

Internet Drawbacks

Young (1998) attempted to define and categorize Internet addiction with a symptomatic questionnaire. The 8 question symptom survey was based on the existing 10 question pathological gambling diagnostic questionnaire, which was believed to be the most similar diagnosis in the diagnostic manual (Young, 1998). Based on the responses, the survey categorized Internet users into two groups: dependent, meaning those who fit at least five of the eight questions for the diagnostic questionnaire, and nondependent, meaning those who did not fit at least five of the eight questions. Young (1998) reported distinct differences in the Internet usage patterns between these groups. The dependent group quickly developed heavy usage that interfered with their lives and proved difficult if not impossible to curtail or discontinue. Additionally, dependent participants used the Internet in a converse pattern to nondependent, with the top three uses for dependents being the bottom three uses for nondependents (Young, 1998).

Internet addiction researchers have struggled to find a clear and definitive parameters to define addiction. For example, Hardie and Tee (2007) identified the maladjustment personality construct neuroticism and lack of social support as key components. Moody (2001) reported relationships between Internet usage and subtypes of loneliness.

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Internet use was indirectly correlated to social loneliness, but directly correlated to emotional loneliness. The work of Casale and Fioravanti (2011) supports the loneliness paradigm, and also reported relationships between extreme Internet use and loneliness. Similarly, Weiser (2001) found that social integration was indirectly related to recreational use of the Internet, and that practical use was directly correlated to social integration. On the other hand, Vergeer and Pelzer (2009) failed to find any correlation between the size of a participant's online social network and loneliness despite the fact that they found a positive correlation between a participant's off-line social network size and social support.

Internet Benefits

Procopio and Procopio (2007) observed situational use of the Internet by examining the usage of individuals who lost their physical communites by natural disaster. Specifically, they looked at Internet utilization by the citizens of New Orleans after hurricane Katrina. They found that, in a time of crisis (like being away from home for the first time), the Internet became a vital tool for reconnecting with one's physical community (Procopio & Procopio, 2007). Other studies have also found that utilization of the Internet can translate into real world community participation. Valenzuela, Park, and Kee (2009) found intensity of Facebook use and the use of Facebook groups correlated with civic and political participation.

Can Internet usage be therapeutic? Colvin, Chenoweth, Bold, and Harding (2004) surveyed caregivers of adult relatives that used online support groups. The respondents identified several positive aspects (e.g., anonymity and time flexibility), and several negative aspects, (e.g., no ability to receive physical comfort and the lack of contextual cues; Colvin et al., 2004). Another study examining the online support of adolescents with chronic kidney disease found a mixture of positive (e.g., connecting geographically dispersed individuals with shared experiences) and negative (e.g., the diverse ages limited cohesion and shared interests; Nicholas et al., 2009). In addition, Eichhorn (2008) found constructive and useful support to be solicited and received in her investigation of online eating disorder support groups.

Arguments for the use of the Internet as a means of social support and wellness are beginning to emerge in the study of online communities. Massively multiplayer online games (MMOs) allow participants to engage in competition and teamwork, while interacting with others online. The popularity of these games is evident. Sales account for about $11 billion of the video game industry's worldwide revenue (Gamasutra, 2009). Besides entertainment, Barnett, Coulson, and Foreman (2009) found communication and social support to be key motivational factors for MMO players. In turn, participation in MMO communities may be a means for achieving the need for belongingness. The positive effect on overall well-being has been cited in the psychological literature over the past several decades (e.g. Baumester & Leary, 1995). Unfortunately, research on MMOs has identified the addictive nature of these games, because many players invest a significant amount of time playing, while neglecting other responsibilities (Yee, 2006).

Online social networks have become increasingly popular over the last decade. Ellison, Steinfield, and Lampe (2007) investigated the intensity of Facebook use on three dimensions of social capital. They found that intensity of Facebook use was directly related to bridging, bonding, and maintaining social capital. The researchers also found that the correlation between intensity of Facebook use and bridging capital was impacted by life satisfaction and self-esteem. Interestingly they did not find any significant interactions between bonding capital, Facebook intensity of use, and psychological factors (life satisfaction and self-esteem). Similarly, Manago, Taylor, and Greenfield (2012) found that a college student's estimated Facebook audience size was directly related to their perceived well-being. In turn, Manago and colleagues suggested that psychosocial needs highly salient during late adolescence and early adulthood could be achieved via online communities. Because it does not require the same time investment of MMO participation, we believe Facebook provides a better platform for exploring positive outcomes of online communities.

Current Study

Maintaining the perspective that Internet usage can lead to positive outcomes, our study was designed to examine online social networks as a means of social support and wellness. Although individuals may have a variety of reasons for using the Internet and social media outlets in particular, we examined Facebook as a communication platform and a potential mechanism for health and wellness. Other studies have examined the number of online social connections (e.g., number

of Facebook friends), but we sought to identify the amount of social engagement. Specifically, our first hypothesis predicted that heavily engaged users of Facebook would report higher measures of social support compared to more lowly engaged users of Facebook. Additionally, perceived family relationships and general mental health and wellness were compared across users of Facebook. Our second hypothesis predicted that heavily engaged users of Facebook would report better perceived family relationships compared to low users of Facebook. Our third and final hypothesis predicted that heavily engaged users of Facebook would report higher perceived mental health and wellness compared to lowly engaged users. Years in college, geographic distance from home and sex were also examined as potential control variables.

Method

Participants

A random sample of 130 undergraduate college students from a public university in Texas agreed to participate in the study (see Table 1). The sample included 73 women and 53 men with mean age of 20.2 years. Sixty-two percent of participants were White American, 21% African American, 10% Hispanic, and 7% other. Following approval from the university's Institutional Review Board, undergraduates were recruited to participate via student email listerv query. One hundred twenty-six of the participants (97%) reported having a Facebook account and a cell phone with text messaging capacity and were included in the subsequent analysis.

Materials and Procedure

Participants were invited to complete an online survey that utilized the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet & Farley, 1988). The social support scale consisted of a 12-item questionnaire based on a 7-point Likert-type scale. The MSPSS assessed social support from both friends and family. The MSPSS had sound psychometric properties with measures of internal consistency ranging from .85 to .91 (Zimet, Powell, Farley, Werkman, & Berkoff, 1990). A slightly modified version of Diener's Satisfaction with Life Scale was used to measure health and wellness (Diener, Emmons, Larsen, & Griffin, 1985). Sample items are "I am satisfied with my life" changed to "I am satisfied with my mental health." Cronbach's α for the current sample was .88. In addition, participants were asked about the degree of their Facebook usage, quality of family relationships (separate from the social support measure), frequency of communication with family and friends, and geographic distance from home. All of these items were presented as one online survey on Psychdata.

Facebook users were categorized as lowly or heavily engagement users based on the reported frequency of social engagement on Facebook. Participants were asked how often they logged onto Facebook (frequency) and the degree of their social engagement (meaning whether they primarily viewed posts as opposed to posting and communicating with others). The degree of social engagement was based on each participant's identification of Facebook usage when answering an item with two response choices. Low users were defined by infrequent social engagement on Facebook (e.g. " I have few status updates and correspondence with others", $M = 6.80$, $SD = 2.70$). Highly engaged Facebook users were identified by self-report of frequent status updates and correspondence with others ($M = 20.20$, $SD = 3.40$).

TABLE 1

Demographic Summary of Participants ($N = 126$)

	Low Facebook Users		Highly Engaged Facebook Users	
Age	$M = 21.4$	$SD = 1.8$	$M = 20.9$	$SD = 1.1$
Sex (n)				
Women	33	–	40	–
Men	24	–	29	–
College Hours	$M = 62.8$	$SD = 5.4$	$M = 59.6$	$SD = 4.8$
Median Geographic Distance From Parents (Miles)	210		197	

Results

Separate independent sample t tests were performed to examine differences in social support, family relationship quality, wellness and geographic distance from home based on low and heavy usage of Facebook. A Bonferonni correction was used to protect against the increased risk of Type I error when performing multiple tests. In addition, analysis of covariance procedures examined the potential moderating effects of biological sex and time in college.

Social Support

The first hypothesis was supported because mean comparisons indicated that heavily engaged users of Facebook reported significantly higher levels

of social support ($M = 52.50$, $SD = 5.80$) compared to low users ($M = 42.50$, $SD = 5.10$), $t(125) = 9.82$, $p < .001$, $d = 1.76$. Differences between groups remained after controlling for sex, distance from home and time in college.

Mental Health Wellness

Mean comparisons indicated a difference on overall perceived wellness between the highly engaged and low engaged users of Facebook. Wellness outcomes paralleled those of social support because low engaged users of Facebook reported less health and wellness ($M = 27.00$, $SD = 3.10$) compared to heavy users ($M = 33.10$, $SD = 4.90$), $t(125) = 8.41$, $p < .001$, $d = 1.50$. Differences between groups remained after controlling for (a) sex, (b) distance from home, and (c) time in college.

Family Relationship Quality

A comparison of heavy and low Facebook engagement revealed similar results because highly engaged users reported better overall relationships with family ($M = 26.80$, $SD = 2.70$) compared to low users ($M = 20.20$, $SD = 2.2$), $t(125) = 7.98$, $p = .001$, $d = 1.43$. Differences between groups remained after controlling for sex, distance from home and time in college.

See Figures 1, 2, and 3 for a summary of mean comparisons across all three outcome measures.

Discussion

Our findings were consistent with survey research from the general population that indicated higher levels of perceived social support for Facebook users compared to non-Facebook users (Hampton, Goulet, Rainie, & Purcell, 2011). Our findings also highlighted connections between the frequency and amount of online social engagement on general mental health. In addition to entertainment and news, the current findings suggested that the use of Facebook may provide wellness benefits and may serve as a mechanism for maintaining favorable relationships with family. We believe our findings underscored the need to identify types of Internet usage before making broad stroke assumptions about the effects of spending time on the Internet.

Facebook may provide the most efficient means for achieving salient developmental tasks

FIGURE 1

Social Support

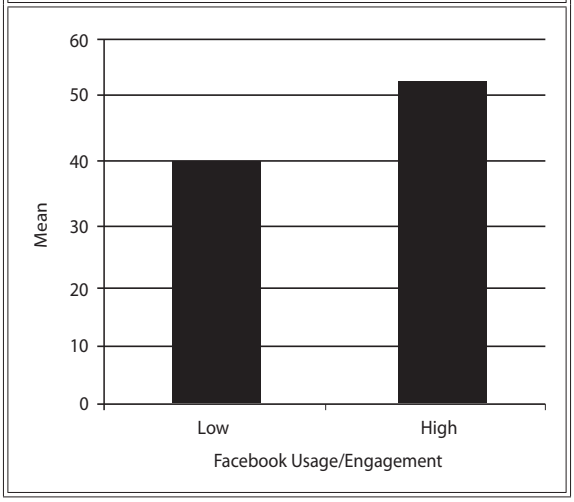


FIGURE 2

Mental Health Wellness

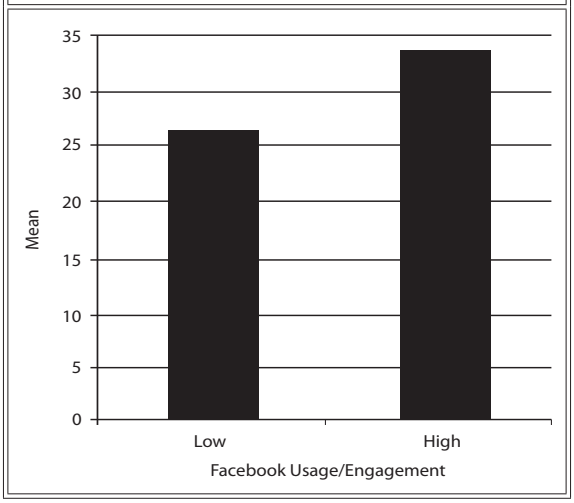
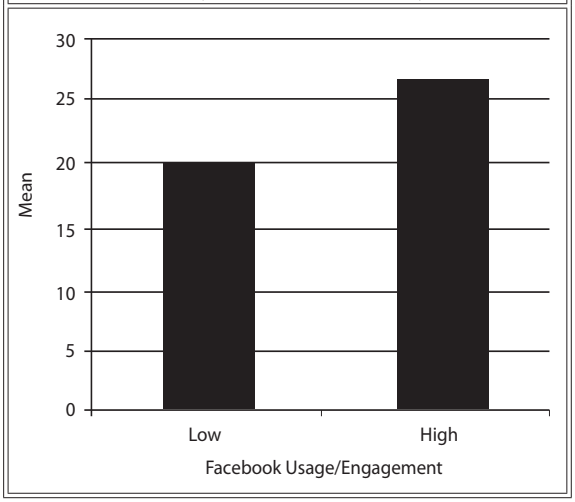


FIGURE 3

Family Relationship Quality



for late adolescence and young adulthood. Results from recent studies with college students suggest that identity, sexual development, and intimacy are constructs linked to online social networking (Ibrahim, 2009; Manago, Graham, Greenfield, & Salimkhan, 2008;). Hampton and colleagues (2011) reported evidence that Facebook may be conducive for maintaining ongoing communication with close, as opposed to distant relations. Furthermore, achievement of informational contexts of social support have been linked to intensity of Facebook usage (Ellison et al., 2007).

The prevalence of online relationships warrant further study as the Internet has increasingly become a primary mode of communication. For college students in particular, the use of social media may help alleviate emotional distress and loneliness associated with leaving home (Ellison et al., 2007). A weakness of the current study was the omission of other online social networks, such as Twitter, Linked-In, and perhaps online gaming. Facebook social support may be qualitatively different from other types of electronic communication, because the user selects with whom he or she will correspond with as friends. For example, one person may follow a Twitter account whose owner does not need to reciprocate. This may or may not be true with online games, chat rooms, and discussion boards as well.

Our sample is weak in ethnic diversity, which makes generalization across all demographics questionable. Lastly, we did not assess the amount of time spent online. Because our study made a distinction between the number of times a person logged onto Facebook, it is possible that low or heavy users could have spent different or similar amounts of time using the online platform. We believed the amount of online engagement was more relevant for our current findings, but future studies should asses time spent online as well.

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Social Networking, Religious Similarity, and Moral Reasoning: Potential Causes of Revolution

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ABSTRACT. Given the recent outbreak of revolutions, understanding the causes of revolutions would be beneficial for many people. In this experimental study, social networking, religious similarity, and moral reasoning were examined as possible causes of revolution. Participants were divided into four groups and were exposed to a conservative political model organization, which advocated using revolutionary behaviors to support political positions. Each model group differed in its religious background and use of social networking. All participants completed the Defining Issues Test 2 (DIT-2; Rest, Narvaez, Thoma, & Bebeau, 1999). Based on the results of the DIT-2, participants were placed into one of three schema groups: personal interests, maintaining norms, or postconventional. A three-way MANOVA confirmed a significant triple interaction effect in predicting willingness to protest utilizing the factors of 2 (social networking) x 2 (religious similarity) x 3 (moral reasoning), $F(2, 152) = 3.342$, $p = .038$, $\eta_p^2 = .042$, Observed Power = .625. This finding supports the complexity and multiplicity of the causes of revolution.

Revolution is the means by which people can revolt against a political structure that they dislike. For example, in the recent Egyptian revolution, people rebelled against a dictatorship. Given the recent revolutions in the Middle East and North Africa, determining possible causes of revolutionary behavior would allow psychological scientists and others to better predict human behavior in areas of unrest. The rebellion in Egypt was quickly followed by revolutions in surrounding nations. This contagiousness of revolution has been seen historically with the relatively quick succession of political revolutions from the mid-eighteenth century to the mid-nineteenth century and beyond (Kagan, Ozment, & Turner, 2004). However, much of the previous research on the causes of revolutions has been nonempirical (Fox, 2004; Montiel, 2006; Thompson, 1999). This lack of empirical data makes it difficult to discuss the causal factors that lead to revolution. Therefore, the goal of this study was to add empirical data to the existing historical and sociological data by using an experimental design to examine causes of revolution.

Revolutions

Revolution can take many forms. Revolution may be political, intellectual, social, or religious. Historically, revolutions tended to be examined individually. When compared, however, similarities are evident. In events such as the French and Russian Revolutions, economic difficulties, political turmoil, and social changes stand out. Also, it is interesting to note that these events tended to be isolated in single locations, such as one city or region. This isolation could be explained by the importance of social networking, which until recently was limited to small regions. Another interesting aspect is the common ideologies shared by the revolutionaries. In the French Revolution, the

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revolutionaries shared a democratic ideology; in the Russian Revolution, they shared a communist ideology. This seems to point to the role of common ideology, political or religious, in revolutions (Mason, 2005).

Kimmel (1990) defined revolution as "attempts by subordinate groups to transform the social foundations of political power" (p.6). Both psychological and sociological scientists have sought to understand revolution and its causes. Hopper (1950) argued that revolution happens in four stages: initial mass excitement, collective unrest, goal formation, and organization. Several theories exist as to the causes of revolution. Gurr (1970) stated that it is relative deprivation and the justification and utility of violence that leads to revolution. Rustow (as cited in Thompson, 1999) argued that national unity is necessary. Skocpol and O'Donnell and Schmitter stated that weakness of the state structure is a precursor to revolution (as cited in Thompson, 1999). Furthermore, historical studies revealed that revolutions are often led by college students with reason to oppose the state, and that religious institutions also play an important role in many revolutions (Thompson, 1999). Fox (2004) found that religious contagion, grievances, mobilization, and repression all predicted willingness to protest and rebel. Most of these theories failed to account for how individuals become willing to protest against or revolt against a political structure. Kimmel (1990) differentiated between three sets of temporal causes of revolution: preconditions, precipitants, and triggers. Because precipitants and triggers deal with specific events and situations, the current study focused on preconditions of revolution. Specifically, the study focused on religion (supported by Fox, 2004; Thompson, 1999), social networking (supported by Fox, 2004; Thompson, 1999), and moral reasoning (supported by Gurr, 1970) as predictors of revolutionary behavior.

Exploration of Possible Causes

The importance of social networking and technology can be seen not only in recent events, but also in sociological studies (Eyck, 2001; Montiel, 2006; Opp & Gern, 1993). Social networking can include many activities, such as connecting with like-minded peers and advancing ideas. At present, social networking is most evident through social networking sites such as Facebook®. Social networking can facilitate revolution, but other factors, such as a religious similarity, contribute to the causes of revolution. In 2011, the first revolution occurred in a primarily Muslim nation, and further revolutions tended to spread to other Muslim nations. Fox (2004) and Thompson (1999) supported the idea that religious and political similarity, at least in certain circumstances, are related to the probability of revolution occurring. Also, based on Kohlberg's theory, moral reasoning is related to political ideology (Fishkin, Keniston, & MacKinnon, 1973. Through the connection of political ideology, this suggests that moral reasoning may influence revolutions too.

The factors discussed above are by no means the only possible causes of revolutions. Fox (2004) cited ethnic differences, political repression, and other variables as contributors to political conflicts such as revolution. However, psychological and sociological research seems to point to social networking, religious similarity, and moral reasoning as potentially important factors in explaining the onset of revolutions (Fiskin et al., 1973; Fox, 2004; Shirky, 2008). Although no psychological theory comprehensively explains revolution, historical evidence underscores the importance of social, religious, and moral factors.

Social Networking

Social networking refers to connections among people. Few researchers have studied the effects of modern social networking websites such as Facebook; however, researchers have studied the effects of personal networks of friends and group association on protest and rebellion. In a study on the East German Revolution of 1989, Opp and Gern (1993) demonstrated the importance of a personal network of friends with a willingness to protest. Eyck (2001) demonstrated that the mass information technologies, which were television and radio at the time, were the best predictors of the protests and riots in the 1970s. Harris (2008) demonstrated the importance of new forms of social networking for young people involved in politics and political matters. New social networking sites allow young people to have an audience for their ideas and access to groups they may not otherwise have (Boyd, 2007). Researchers have also demonstrated that networking facilitates mobilization of groups to carry out revolutionary behaviors (Eyck, 2001; Hillman, 2008).

Current events provide examples of how social networking technologies have been used in political protests. In Belarus in 2006, using the blog site, LiveJournal®, activists coordinated a peaceful

flash mob to protest a rigged election (Shirky, 2008). Although not political, British students used Facebook in 2007 to organize a protest against HSBC bank when an abrupt policy change greatly affected students with accounts through that bank (BBC, 2007). In Egypt in January 2011, political protesters used Facebook to organize political demonstrations, and supporters used Twitter® to post news of the events (BBC, 2011).

Religious Similarity

Historically, religion has been a major factor in revolution. Fox (2004) found that conflict that contains a religious component tended to spread more than conflict without a religious component. In this study, religious conflict was defined in terms of grievances, legitimacy, and discrimination. Interestingly, Fox (2004) found that the religious aspect only applied to violent conflict and not peaceful protest.

Researchers have addressed the political attitudes and involvement of both Christian evangelicals and fundamentalists (Harding, 2009; Lewis & de Bernardo, 2010). Although not all fundamentalists are evangelical, there is overlap, and fundamentalism is a measurable trait. In the United States in recent decades, a political movement known as the *Moral Majority* or *Religious Right*, which identifies with the Republican party, has emerged with many evangelicals entering into the realm of politics. Dating from the early 20th century, fundamentalists have been involved in a wide range of political issues including communism, civil rights, and education (Harding, 2009).

Moral Reasoning

Social justice and equality are often cited as justifications for political revolution (Mason, 2005). These justifications link revolution to morality, and specifically to Kohlberg's model of moral reasoning, which asserts justice as the highest moral good (Kurtines, Alvarez, & Azmitia, 1990). The six stages of Kohlberg's model are evenly divided into three levels. The Preconventional Level in Kohlberg's theory is divided into Stage 1, a childhood stage characterized by selfishness, which is not typically found in college populations, and Stage 2, which is characterized by egocentrism and serving one's own needs. The Conventional Level is then divided into Stage 3, which involves conformity, and Stage 4, which emphasizes law and order. The Postconventional Level is divided into Stage 5, wherein morality is based on a social contract, and Stage 6, which involves principled thinking (Fishkin et al., 1973). As explained by Haan (1975), those with conventional moral reasoning are driven by external sources (e.g., political or religious institutions) whereas those with postconventional moral reasoning are driven by internal sources (e.g., personal moral principles). However, there are weaknesses in Kohlberg's model. Kurtines and Greif (1974) questioned the reliability and validity of Kohlberg's original model. Krebs and Denton (2005) argued that Kohlberg's model failed to predict moral judgments or behaviors and did not account for situational and dispositional variables.

The present study used the DIT-2, which differs somewhat from Kohlberg's original stages of moral reasoning. In the guide for the DIT-2 Bebeau and Thoma (2003) replaced Kohlberg's stages of moral reasoning with schemas. The Personal Interest Schema corresponded to Kohlberg's Stages 2 and 3. The Maintaining Norms Schema corresponded to Stage 4, and the Postconventional Schema corresponded to Stages 5 and 6. The present study used the terminology of the DIT-2 rather than that of Kohlberg's theory. Recently Bailey (2011) used the DIT-2 to explore if participants could predict both the moral reasoning schemas and political orientation of others based on their answers to the DIT-2. He found that participants could better predict moral reasoning schemas than political orientation, giving further credence to the notion that they are two separate constructs.

Moral reasoning has been linked to political ideology though it is not the same construct. Also, conventional moral reasoning has been positively correlated with conservative political ideology, while preconventional and postconventional moral reasoning have been positively correlated with liberal political ideology (Emler, Renwick, & Malone, 1983; Fishkin et al., 1973). However, further research showed that moral reasoning and political ideology were not the same construct. Human rights judgments were best predicted by moral reasoning combined with political ideology, rather than by either variable alone (Raaijmakers & van Hoof, 2006).

The purpose of this study was to explore the effect that a political group's participation in social networking has on a participant's willingness to engage in protest and rebellion. Also, the effect of the political group's religious similarity to the participant was explored. Finally, the participant's level of moral reasoning was examined as a possible predictor of protest and rebellion. In the current

study, a general hypothesis was that all three variables would have a positive effect on participants' willingness to protest and rebel. Specifically, the following four hypotheses were proposed including one interaction effect and three main effects.

1. Social networking, religious similarity, and moral reasoning would combine to significantly influence participant's willingness to protest and rebel.
2. Social networking would significantly influence participant's willingness to protest and rebel.
3. Religious similarity would significantly influence participant's willingness to protest and rebel.
4. Moral reasoning would significantly influence participant's willingness to protest and rebel.

Method

Participants

Participants were a convenience sample drawn from a small Midwestern, Christian, Pentecostal university. The sample size included 164 participants (65 men, 99 women). Ages ranged from 17 to 49 with 95% of the sample being 18–24. European Americans constituted 86% of the sample, Hispanic Americans 4.9%, African Americans 2.4%, and people of other ethnic groups the remaining 6.7%. Participants reported their religious denomination; 73.5% were affiliated with Assemblies of God, 19.5% were affiliated with nondenominational churches, and the remaining participants reported other Christian denominations. Participants were asked to characterize their political views with 23.8% reporting very conservative, 50% somewhat conservative, 17.7% neither liberal nor conservative, 7.9% somewhat liberal, and 0.6% very liberal. Although this sample was used primarily for convenience, the sample needed to be homogenous in regards to political orientation in order to have one political and one religious group with which all participants could identify in order to determine the effects of religious similarity. Participants were recruited through social science and psychology courses. Participants were offered either course credit or extra credit for their participation, and all participants were entered into a drawing for one of eight gift cards. An institutional review board approved the study, and participants were treated according to American Psychological Association ethical guidelines (APA, 2010).

Materials

The study was completed through the online survey company, Qualtrics. Participants were first asked to complete measures of moral reasoning and political ideology in addition to demographic questions.

Demographics. Participants were asked to provide their sex, age, ethnicity, level of education, political affiliation, and religious affiliation.

Religious similarity and social networking. Each group was shown a website or flyer of a student political organization advocating a conservative stance on issues such as health care, taxes, abortion, and same-sex marriage. The organization asked volunteers to engage in various protest behaviors, such as signing a petition and recruiting others. The organization also implied willingness to engage in more extreme behaviors, such as taking up arms. Two groups had a model political organization that professed to be Christian and that gave religious reasons for its position; the other two groups had a model political organization that was not Christian and did not speak of religion at all. In the two groups with a non-Christian model, the political issues of abortion and same-sex marriage were mentioned because they are often seen as religious issues. Also, in two of the groups, the models' views were conveyed using a website which included several social networking opportunities, such as Facebook and Twitter; the other two groups were shown the models' views using brochures that focused on traditional methods of political involvement without any opportunities for networking.

Moral reasoning. In order to measure moral reasoning, participants completed the Defining Issues Test 2 (DIT-2; Rest et al., 1999). This measure is based on Kohlberg's theory of moral reasoning and is adapted from Defining Issues Test 1. The DIT-2 is slightly shorter using only five scenarios instead of six, and it also updates the wording and scenarios. Participants responded to each scenario by indicating what action they would take and the importance of several factors. In our study, participants were divided into three groups based on which moral reasoning schema they scored highest. Internal reliability for the measure was acceptable according to the sample in Rest et al. study (1999; Cronbach's alpha .81). According to the guide for the DIT-2, Cronbach's alpha was between .75 and .85 (Bebeau & Thoma, 2003).

Revolution. In the present study, revolution

was operationally defined as willingness to protest or rebel. Protest was defined as mild forms of disagreement with policies, such as petition and participation in rallies. Rebellion was defined as more extreme forms of protest, such as armed uprising. Participants rated their willingness to engage in six revolutionary behaviors on a scale from 1 (*not willing at all*) to 5 (*completely willing*). Behaviors included petitioning a government organization, joining a Facebook group, picketing a government organization, recruiting voters, refusing to obey laws/civil disobedience, and participating in an armed rebellion. The scores on the first four behaviors constituted willingness to protest (maximum score of 20), and the scores on the last two behaviors constituted willingness to rebel (maximum score of 5).

Design and Procedures

The design of this study was a 2 (social networking) x 2 (religious similarity) x 3 (moral reasoning) mixed multivariate design with two independent variables, one quasi-independent variable, and two measures of the dependent variable (willingness to protest, willingness to rebel). Participants were sent a link to the survey through their campus email. First, participants were shown the consent form, and asked to continue only if they agreed to participate. Participants were deceived into believing that the political group in the study was real. Participants were then randomly given a link to one of the four conditions (political group website, Christian political group website, political group flyer, or Christian political group flyer). Following that, participants completed the DIT-2. Participants then responded to demographic questions that included political and religious affiliations. Finally, participants indicated their willingness to participate in revolutionary behaviors. At the end of the survey, participants were told that the political group was fictitious and thanked for their participation.

Results

Preliminary Results

A total number of 247 individuals participated, but many were missing data. Participants with any missing data were eliminated, resulting in 164 participants for the final analyses. Due to the nature of the DIT-2, participants with any missing data could not be scored at all, hence the large number of eliminated participants. All measures were within acceptable ranges for skew and kurtosis (George & Mallery, 2009). There were 35 participants in the group in the Christian model and social networking opportunities. There were 40 participants in the group in the non-Christian model and social networking opportunities. There were 44 participants in the group in the non-Christian model and no social networking opportunities. There were 45 participants in the group in the Christian model and no social networking opportunities. Using the results from the DIT-2, participants were divided into three groups based on their scores on the schema of moral reasoning. Based on this, 38 participants were placed in the personal interest schema group, 86 in the maintaining norms schema, and 40 in the postconventional schema. See Table 1 and Table 2 for group means and standard deviations.

Main Analyses

A three-way MANOVA was conducted to determine the effects of the three independent variables on willingness to protest and rebel. Box's *M* test was used to assess the assumption of homoscedasticity, which was nonsignificant ($p > .05$). Because the primary interest was in the three-way interaction effect, Roy's Largest Root uses only one analysis instead of analyzing the variables separately and averaging the result like other tests (Warner, 2008). There was a significant three-way interaction effect, Roy's Largest Root = .044, Multivariate $F(2, 152) = 3.342$, $p = .038$, $\eta_p^2 = .042$, Observed Power (*OP*) = .625. This interaction effect means that protest and rebellion happen more often given the presence of social networking, the presence of religious similarity, and the use of postconventional moral reasoning.

Levene's test of homogeneity of variance was nonsignificant for the analysis of protest ($p = .740$) but was significant for the analysis of rebellion ($p = .030$). Therefore, the univariate ANOVA

TABLE 1

Group Means and Standard Deviations for Protest

	Personal Interest						Maintaining Norms						Postconventional					
	S.N. Yes			S.N. No			S.N. Yes			S.N. No			S.N. Yes			S.N. No		
	n	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
R.S. Yes	6	13.7	3.1	9	11.8	3.5	25	11.8	2.3	25	12.8	3.7	4	10.8	2.6	11	13.6	3.0
R.S. No	16	11.2	3.7	7	15.0	3.5	16	11.4	3.9	20	13.4	3.1	8	14.1	3.5	17	14.2	3.2

Note. Personal Interest, Maintaining Norms, and Postconventional Schemas represent moral reasoning groups. R.S. is Religious Similarity. S.N. is Social Networking.

examined the effects of the independent variables on only the protest dependent variable. The ANOVA results indicated that the triple interaction effect was found in the protest dependent variable, $F(2, 152) = 3.33$, $p = .038$, $\eta_p^2 = .042$, $OP = .623$. This demonstrates that the effect found with the MANOVA only holds true for willingness to protest. A main effect was also found for social networking, $F(2, 152) = 4.56$, $p = .034$, $\eta_p^2 = .029$, $OP = .564$. Posthoc analyses of moral reasoning using the LSD test showed that the maintaining norms schema group significantly differed from the postconventional schema group with $M_{\text{Difference}} = 1.278$, $p = .045$; this means that the postconventional schema group had more willingness to protest than the maintaining norms schema group.

Discussion

Overall, social networking, religious similarity, and moral reasoning significantly affected participants' willingness to engage in protest. Hypothesis 1 was supported both by the MANOVA and follow-up ANOVA. Social networking, religious similarity, and moral reasoning together contributed significantly to the understanding of the causes of revolutions. However, the data only supported this for political protest, not political rebellion. Hypothesis 2 was supported by the follow-up ANOVA; social networking affected willingness to protest. Hypothesis 3 was not supported; religious similarity alone did not affect willingness to protest. Hypothesis 4 was also not supported; moral reasoning schemas alone did not affect willingness to protest. However, those with a postconventional moral schema did report greater willingness to protest than those with a maintaining norms schema. The triple interaction effect is significant in another way: Revolutions, even simple political protests, are often too complicated to be simplified to one or two causes. It is the interaction of many factors that produce revolutions. Although there are few empirical studies of the causes of revolution, historians have long debated the causes of revolution. One historian identified at least six causes of the French Revolution and at least as many for the Russian Revolution of 1917 (Mason, 2005). However, the causes given tend to be either economic or political which was beyond the scope of the present study. Given that historians have long recognized the complex interaction of events that lead to a revolution, it follows that researchers should acknowledge the interaction of variables and should examine how causes work together to produce one effect. This study supports the importance of the interaction of factors in predicting revolutionary behavior.

TABLE 2

Group Means and Standard Deviations for Rebellion

	Personal Interest						Maintaining Norms						Postconventional					
	S.N. Yes			S.N. No			S.N. Yes			S.N. No			S.N. Yes			S.N. No		
	n	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*	*n*	*M*	*SD*
R.S. Yes	6	4.7	2.2	9	3.7	1.6	25	4.0	2.1	25	4.2	2.6	4	3.3	1.3	11	3.1	1.2
R.S. No	16	4.1	2.3	7	4.9	3.0	16	3.1	1.9	20	3.1	1.3	8	3.9	2.4	17	5.0	2.7

Note. Personal Interest, Maintaining Norms, and Postconventional Schemas represent moral reasoning groups. R.S. is Religious Similarity. S.N. is Social Networking.

Limitations. This study has certain limitations. The sample included only American college students from a Christian university, which are not representative of the general population. Also, a large number of participants were eliminated from data analysis due to missing data. Reliability of the DIT-2 for the current study was lacking. The biggest limitation was the inability to account for the many variables that historians and sociologists have traditionally given as causes of revolutions. Due to the situational nature of some of those causes, it is uncertain as to whether or not they could be replicated in an experimental setting. Many factors influence revolutions, and some of those factors cannot be studied experimentally. In particular, repression plays a role in revolutions, and that factor could not be brought into an experimental environment easily. Also, the political issues used may not have elicited strong enough reactions to cause participants to be willing to participate in revolutionary behavior. Furthermore, a study by Haan (1975) demonstrated that people do not always use the same stage of moral reasoning for both hypothetical and actual dilemmas. Therefore, measures of hypothetical moral reasoning may not reflect actual moral reasoning because it confrontation with actual moral dilemmas prompts some people to develop new ways of moral thinking. Also, different stages of moral development may be used in different situations (Sparks & Durkin, 1987). Despite these limitations, the findings offer some empirical support for a few possible causes of revolution. Economic factors, such as inflation and lowered standard of living, and political factors, such as inept leadership, should be examined in future research on this topic.

Future research. Future research should draw on historians' views on the causes of revolution and

try to test these views empirically. Sampling was a big hindrance to the current study. Future research should incorporate more diverse populations. The present study is simply one small step toward an empirical understanding of revolutions.

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INVITED ARTICLE

My New School Year Resolution—Bringing Projects to Publication: Advice for Faculty and Students

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During the last academic year, I have been working with a colleague on The Open Science Collaboration's *Reproducibility Project*, a collaborative effort of over 40 institutions examining the reproducibility of articles published in the 2008 editions of the *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *Journal of Personality and Social Psychology*, and *Psychological Science* (Nosek, 2012). A *Chronicle of Higher Education* article covering this project mentions Rosenthal's famed file-drawer effect in which nonsignificant or nongroundbreaking findings are relegated the anonymity of the file drawer (Rosenthal, 1969 cited in Bartlett, April 2012). As a faculty member at a small, teaching institution where scholarship is required but not always supported, I was reminded of my own personal version of the file-drawer effect. My students (all undergraduates) regularly produce excellent theoretical and research pieces; unfortunately, these manuscripts are rarely taken any further than a conference presentation.

The experience of presenting and attending a psychology conference is an excellent opportunity for undergraduates. But, when there is a supportive yet rigorous venue like the *Psi Chi Journal of Psychological Research*, I began to ask myself, "Why aren't I encouraging my students to publish more?" Grahe et al. (2012) note that there are many reasons why more undergraduate work isn't published, not the least of which is experimenter error. However, it is troubling that, although greater than 70% of undergraduate psychology programs require research activities, less than 10% of student projects are presented beyond the classroom (Perlman & McCann, 2005).

This year I decided to make a resolution. In many ways, my students and I are already doing the work. My students are writing. I am providing feedback and grading. They are revising. For excellent undergraduate work, the next step should be obvious but is not always easy. Aside from being conscientious about what I am already doing to foster student publication, I realized that I can also be more mindful in my course design with the goal of moving away from a purely *apprentice* model. Not only should I be assisting in moving projects toward publication but also providing more opportunity for research in the classroom. What follows is advice for both faculty and students about ways to include research in the classroom experience, be a good student candidate for continuing work, and avoid the classroom file-drawer effect.

Faculty

Write Research in as a Course Objective

Though my colleagues and I have a heavy teaching load, we are at a smaller institution where teaching Research Methods or Experimental Psychology as a project-based course is the norm. All students generate (with assistance) an original study on their own or with a partner which they execute during a single semester. This course culminates with a poster presentation at the end of the semester, and, in lieu of a final exam, students complete a call for papers assignment modeled after our regional conference's call for papers. At the end of the semester, I have 5 to 12 completed call for papers which, depending on their quality, may be submitted to our regional conference the following year. The expectation is created in this course that not only is a project required but also that students think about a potential next step, dissemination. In addition to creating an expectation, the process of applying to a conference is demystified.

Although this approach to Research Methods may not be feasible for all faculty, most psychology classes provide potential for assignments to live beyond the semester. An excellent research proposal could be massaged into a viable experiment. Or, considering the prominence of scientific enquiry and critical thinking in the *APA Guidelines for the Undergraduate Psychology Major* (APA, 2006), we should be implementing research and critical thinking into all our courses. Why not take advantage of opportunities for idea development, data collection, and scientific writing into our existing courses? In fact, a piece included in the current edition of this journal (Bramesfeld et al., this issue) provides an outstanding example of a research project completed as a service-learning component of a research methods course.

Moreover, Rogers, Kranz, and Ferguson (2012) offer suggestions for including research as a course objective at a Hispanic Serving Institution (HSI). In the course they describe, a mutually beneficial approach allowed researchers to tap into their minority students' existing relationships as an embedded researcher. Authors were able to access populations typically not represented in research and they also involved more minority students in research activities. Rather than an apprentice model as is traditionally the case, a course that is designed to be half didactic and half research provides opportunity for both faculty and students to maximize the potential of their work. When research is exclusively outside of the classroom, barriers are created for otherwise excellent student researchers—especially commuter, nontraditional and minority students.

Cultivate a Relationship With IRB

As Grahe et al. (2012) and Rogers et al. (2012) identify, a potential obstacle to meaningful undergraduate research in the classroom is the Institutional Review Board (IRB) timeline. Allowing students to generate research questions and design in a class means that one will likely forego approval and thus presentation of the work beyond the course as is the case with some 90% of student projects (Grahe et al., 2012; Perlman & McCann, 2005). Alternatively, an in-class generation of research questions may result in a project that will take longer than a 16-week semester and require significant future commitment from both students and faculty.

To overcome this challenge, Grahe et al. (2012) recommend pursuing topics and methods that qualify for expedited consideration. Moreover, these authors suggest that the classroom is a ripe environment for straightforward replications which may also assist in the recent call for demonstrating replicability in psychology. Further, Rogers et al. (2012) reflected that communicating with IRB early often helps to facilitate the process of including a research project as a course requirement. They suggest a couple of approaches to tackling IRB: (a) a ready-to-go project with IRB approval prior the semester's start which involves the students very little in the design and hypothesis generation; (b) a blanket approval for an overall project with a pending final approval once the students have generated some of the specifics (in their case, content of interview questions); and (c) very generally, they suggest involving IRB early in the process. The board can and should be a valuable resource and ally in developing students' understanding of the approval process and research ethics. Faculty are encouraged to develop a relationship with their local board to determine their options, including the possibility of an expedited classroom approval.

Consider a Contract

Whatever approach is taken to involve more students in research and hopefully, publication, it is important that students be aware of the commitment involved. Whether a course culminates in a proposal or completed project there will be a level of commitment beyond the close of the semester in order to advance toward publication. If a course is designed so that a reasonable draft of a manuscript is the end result, both the faculty and the student must consider their ability to continue the work. Students are advised regarding the meaning of authorship below but faculty should also be prepared to have some form of written agreement regarding the outcome of the project. Both parties have contributed to the development of the manuscript and, should the student be unwilling or unable to continue, the faculty member should not have to sacrifice their work. A contract provides many advantages including: (a) setting up the expectation that student work should have a greater purpose, (b) providing a disclosure about the work that may be involved should a student desire publication, (c) allowing the faculty to continue the work with the student's permission should the student be unable to continue.

In addition to the suggested syllabus contract (see Appendix A) faculty should consider working through Winston's (1985) worksheet on

determining authorship or West Virginia University's "Research Responsibilities Checklist" with their student(s) which is available in the APA's (2006), *A Graduate Student's Guide to Determining Authorship Credit and Authorship Order*. See Appendix B for an adapted version of Winston's (1985) authorship worksheet.

Undergraduate Students

Make Yourself a Candidate for Collaboration Beyond the Classroom

As faculty, interactions begin and impressions are formed in the classroom. Believe it or not, being a bright and talented student are only two characteristics we are looking for in a collaborator. Are you consistently late or missing class? Texting in class? Asking for extensions? We are looking for students who not only produce excellent work but are reliable, engaged, and trustworthy. In my own small department we routinely *staff* students, discussing their performance, reliability, and even in-class etiquette during department meetings when we are considering them for work study or research positions. The bottom line is that your behavior in class may influence the willingness of faculty to work with you outside of class.

See Your Assignments as More Than Just Assignments

We have all had the class or two that we just endured but, why not be deliberate in your topic choices, diligent in including professor feedback, and plan on taking your work beyond the class in which it was assigned? If your school requires a project-based Research Methods course like mine—plan on a project with future potential. At the least, you should have a goal of taking the project to a conference. Even better, plan to hone and revise your manuscript into a publishable piece. If your school does not require an independent or group research project as part of your undergraduate coursework, keep your eyes open for other opportunities. For example, many upper-level courses require a research proposal. Take this assignment and the opportunity for feedback seriously and then take the next step. A proposal requires you to consider all the elements you will address in an IRB. Be mindful of feasibility when you write a proposal and work with a faculty member to take that proposal to the next step.

Discover the Interests of Your Faculty

Try to determine early whom you share interests with. As you are being deliberate with the completion of major papers and assignments, consider a faculty member who may be willing and able to work with you further. Although this commentary suggests that faculty should look for more opportunities within the classroom, keep in mind that the apprenticeship model of research collaboration is common and you may benefit from seeking out a research mentor.

A few strategies for discovering a mentorship match include: (a) Make an effort to read biographical information available on your department's website including reviewing any research interest statements or lists of recent publications, (b) attend local Psi Chi offerings such as meet-and-greets and be sure to ask questions, and (c) talk to upper-class students who are participating in research.

Once you have identified a potential mentor, it is important to determine whether that person is a good fit *and* whether they are willing and able to mentor you. Consider making an appointment to ask the professor if they are accepting research assistants and if there are any current projects you could contribute to. Be sure to also ask about their mentorship style and expectations. Finally, it is important to come prepared if you seek out a meeting. Let the professor know you are serious by preparing questions or perhaps draft specific research ideas.

Understand the Meaning of Authorship

Much has been written on determining authorship and authorship order (e.g. APA, 2010; APA, 2006; Fine & Kurdek, 1993). Ideally, if a student developed the project, executed the research, and wrote the paper, the student should be the primary author. If the paper was conceived and written as part of a course assignment and the faculty member provided guidance and feedback through the conceptualization, design, execution and writing, then that faculty member will have "substantially contributed" (para 8.12 [a], APA, 2010). Students should keep this in mind if they elect to continue work beyond the class and/or seek another mentor to pursue publication. Although it is important to find a mentor that is both willing and able to work with you, it is also crucial to give credit where it is due. Manuscript preparation is a lengthy and time consuming process. In some situations, a faculty member may take on significant responsibilities related to revision and resubmission. In these cases, it may be appropriate to recognize the faculty member as the first author. These are

all issues you should be prepared to discuss with your research mentor so that authorship credit is equitably designated. Again, a suggested rubric for determining authorship adapted from Winston (1985) is included (see Appendix B).

Be Honest About Your Ability to Commit

Upon the close of each semester, students and faculty alike experience fatigue and perhaps intellectual burnout. Once you have had some space to overcome the initial exhaustion, consider where you would like to go next with your work. Is the starting point—the end product you submitted—a high-quality piece? Has a faculty member shown interest in or encouraged you to consider continuing the work? If so, are you able to commit? For how long? These are important questions to ask yourself, and be honest about the answers.

I am currently working with a student on a manuscript that has been 5 years in the making. He started out in my Research Methods class, went on to complete an honors thesis, and is now working on revisions in order to submit to a second potential venue. I count myself very fortunate that he has been invested in this project as long as he has. Too often, students overestimate their availability and enthusiasm. Rather than making a promise you can't keep, really consider how far you are willing to go. If an additional semester or year is not realistic, how do you feel about your mentor taking the project over on your behalf? Finally, keep in mind that you may be eligible for a paid research position, or earn additional credits while you continue the work. Educate yourself on the opportunities that exist at your school for independent research, independent study, or other individualized credits. Sometimes having the structure of a paid position or credit-bearing course helps to keep everyone on track.

Be Aware of the Ramifications

Some graduate school admission committees look at publications first, GPA second. At the very least, research experience has been identified as the highest rated second-order criterion (behind GPA, GRE, and recommendation letters) for acceptance to doctoral programs (Keith-Spiegel, Tabachnick & Spiegel, 1994). The advantages of research experience and especially publication as an undergraduate are many and obvious. Aside from looking great on a graduate school application, having the experience of engaging in research and seeing a project come to fruition as a publication is invaluable. *Eye on Psi Chi* has highlighted the variety of skills and abilities that are developed in this process from collaboration, to attention to detail, to the ability to synthesize many perspectives (Sleigh & Ritzer, 2007).

Alternatively, related to the advice of carefully considering your ability to commit—collaborating closely with faculty may present challenges that a student would not typically confront in the classroom. For example, when you write a paper and your professor provides feedback, there is not always an opportunity to or expectation of implementing the feedback (e.g., on the final draft of your papers). In a collaborative setting, it will be expected that feedback be implemented correctly and in a timely fashion. Also, depending upon the size of the class, it may go unnoticed when a student hasn't adequately prepared for a discussion. In a one-on-one research meeting, lack of preparation is painfully obvious and a waste of time for all involved. In short, more will be required of you with less opportunity for social loafing. An excellent student may be a terrible collaborator, and fractures in research relationships can bode very poorly for future recommendation letters.

Conclusion

Research experience is an important goal of the undergraduate psychology curriculum. As a discipline, we are meeting these goals in a variety of ways but are less effective when it comes to bringing our students' work to publication (Perlman & McCann, 2005). Quality journals that judge students' work based upon their developmental level like *Psi Chi Journal of Psychological Research* provide excellent opportunities for faculty and students to avoid the file-drawer effect. In the coming year, my personal new school-year resolution is to find at least one piece to submit with a student. To meet that goal, I plan on implementing more opportunity for the development of publishable pieces in my current courses and working with students on contracting. Luckily, I have already established a positive working relationship with the IRB chair at my own institution, which I intend to continue.

Considering the call for replication in psychology and the opportunity for student publication, we should all take advantage of this historic time in our discipline. Student and faculty collaboration is a valuable experience for all involved. Both parties benefit from a productive research relationship. Undergraduate publication helps students pave a path to graduate school acceptance by building

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critical thinking, reading, and writing skills, in addition to the cultivation of collaborative relationships with faculty. Students are encouraged to consider the qualities that will make them a successful collaborator outside of class in addition to seeking out opportunities to turn their hard work into a publication. As faculty, some of the most rewarding teaching moments occur when we witness our students grow beyond the content of our curriculum and develop into scholars. We should be reconsidering the confines of our class objectives and avoiding our personal file drawers by finding unique ways to support undergraduate publication and take advantage of the work we are all already doing.

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Appendix A

Sample Coursework Publication Contract

Following completion of this course, you may be invited by the professor to pursue publication of a manuscript you have created. This may take the form of a conference presentation, publication in a journal, or both.

Should your work be published, you may be listed as the first author with the professor as the second or you may be listed as the second, third, or other author. Authorship depends upon the amount of work you participate in beyond this course. Publication can be a time consuming endeavor and may require several revisions spanning over 3 months to 1 year (or longer, depending on the journal).

Please indicate your consent by initialing below.

Consideration for publication:

_____ Yes, I would like my work to be considered for publication if deemed publishable by the professor.

_____ No, I am not interested in pursuing publication of work related to this course. (If initialed, skip to bottom)

Future availability:

_____ Yes, I anticipate being willing/able to work with the professor on a manuscript beyond the end of the semester.

_____ No, I do not anticipate being willing/able to work on a manuscript beyond the end of the semester.

_____ I am unsure whether I will be willing/able to work on a manuscript beyond the end of the semester.

Permission to publish on behalf of the student:

_____ Regardless of my ability to work on a manuscript beyond the end of the semester, I am comfortable allowing my professor to pursue publication on my behalf, even if I am not listed as the first author.

Please sign below to indicate that you have read the contract and agree to the selections initialed above. Should your willingness to be considered for publication or permission for the professor to publish on your behalf change, the instructor must be notified prior to the end of the semester.

Please note that indicating your willingness to publish or providing permission for the instructor to publish on your behalf does not guarantee publication, nor does it influence the grade you earn in this course.

_____

Signed **Date**

_____

Printed Name

Appendix B

Worksheet for Determining Authorship Adapted from Winston (1985)

Area	Tasks	Value	X/÷	Name 1	Name 2
Conceptualization	Idea Development/ Research Question	50	÷		
	Initial Literature Search	20	÷		
Execution	Preparation of IRB	20	÷		
	Selection/preparation of materials & measures	5	X		
	Data Collection	40	÷		
	Lab Time Required (if applicable)	10	X		
	Selection of Tests & Analysis of Data	10	X		
	Interpretation of Data	5	X		
Writing– First Drafts	Literature Review	20	÷		
	Methods	20	÷		
	Results	20	÷		
	Discussion	20	÷		
Revisions	Manuscript Revision	5	X		
	Additional Literature Searches	1	X		
	Additional Analyses	20	÷		
	Responses to Editors	2	X		
Other	Other Tasks Unique to the Study	–	X/÷		
	Totals				

X = Multiplied by hours spend engaged in the task. ÷ = Divided among the potential authors based on relative contribution to the task.

PSI CHI AWARDS

Psi Chi sponsors a variety of award competitions each year. Listed below is a brief overview. For more information, please visit **www.psichi.org/Awards**

Name of Award	Description of Award	Submission Deadline	Who Can Apply?	Award Amount/ Prize
Bandura Graduate Research Award	Awards the student submitting best overall empirical study; cosponsored by APS	February 1	• Graduate	• Travel expense to APS • Plaque • 3yr APS membership
Cousins Chapter Award	Presented to one chapter that best achieves Psi Chi's purpose	February 1	• Chapter	• One $3,500 award • Travel to APA • Plaque
Newman Graduate Research Award	Awards the student submitting best overall empirical study; cosponsored by APA	February 1	• Graduate	• Travel expense to APA • Plaque • 3yr journal subscription
Kay Wilson Presidential Leadership Award	Awards one chapter president who demonstrates excellence in the leadership of the local chapter	April 1	• Chapter President (chapter nomination)	• One $500 award • Travel to APA • Plaque
Psi Chi/Psi Beta Building Bonds Awards	Awards to recognize collaborative activity by a Psi Chi and Psi Beta chapter	June 1	• Chapter	• $100 award • Plaque
Model Chapter Awards	All chapters meeting the five criteria will receive $100	June 30	• Chapters	• $100 each chapter
Diversity Article Awards	Awards for best articles published by student authors on diversity issues	July 1	• Graduate • Undergraduate	• Two $300 awards
Regional Research Awards	Up to 78 awards presented for the best research papers submitted as Psi Chi posters for the regional conventions	Deadlines Vary, Fall/Winter	• Graduate • Undergraduate	• $400 each (number varies)
Denmark Faculty Advisor Award	To one outstanding faculty advisor nominated by the chapter who best achieves Psi Chi's purposes	December 1	• Faculty Advisor (chapter nomination)	• Travel expense to APA • Plaque
Kay Wilson Officer Team Leadership Award	Awards the best chapter officer team for exceptional leadership as a group	December 8	• Chapter	• $2,000 award ($1,000 for chapter + $1,000 for officers)
Regional Chapter Awards	Presented to one chapter in each of the six regions that best achieve Psi Chi's purpose	December 1	• Chapter	• Six $500 awards • Plaque
Regional Faculty Advisor Awards	To six outstanding faculty advisors (one per region) who best achieve Psi Chi's purpose	December 1	• Faculty Advisor (chapter nomination)	• Six $500 awards • Plaque
APA or APS Society Convention Research Awards	Up to 8 awards (4 grad, 4 undergrad) presented for the best research papers submitted for APA/APS conventions	December 1	• Graduate • Undergraduate	• $500 graduate (number varies) • $300 undergraduate (number varies)

RESEARCH AWARDS

Bandura Award | February 1

All psychology graduate students who are Psi Chi members and graduate student affiliates of the Association for Psychological Science (APS) are eligible to submit their research for the Albert Bandura Graduate Research Award. The winner receives the following: (1) travel expenses to attend the APS National Convention to receive the award, (2) a three-year membership in APS, including subscriptions to all APS journals, and (3) two engraved plaques, one for the winner and one for the winner's psychology department as a permanent honor to the winner. This award is presented during the APS opening ceremony at the APS National Convention.

Newman Award | February 1

All psychology graduate students are eligible to submit their research for the Edwin B. Newman Graduate Research Award. The winner receives the following: (1) travel expenses to attend the APA/Psi Chi Society Convention to receive the award, (2) a three-year subscription to an APA journal of the winner's choice, and (3) two engraved plaques, one for the winner and one for the winner's psychology department as a permanent honor to the winner. This award is presented during the APA/APF Awards ceremony at the annual APA/Psi Chi Society Convention in August.

Guilford Awards | May 1

All Psi Chi undergraduate members are eligible to submit their research for the J. P. Guilford Under-graduate Research Awards. Cash awards are $1,250 for grand prize, $1,000 for first place, $750 for second place, $500 for third place, and $250 for two honorable mentions.

Diversity Article Awards | July 1

Two awards of $300 each are available for the best articles published by student authors on diversity issues, including but not limited to ethnic minority, GLBT, gender, and physical disability. The submission cannot contain faculty primary authors or coauthors. Both graduate and undergraduate Psi Chi members are eligible for the award.

Regional Research Awards | Deadlines Vary (Fall/Winter)

All Psi Chi members (undergraduate and graduate) are eligible to submit their research for the Regional Research Awards. Up to 78 cash awards of $400 each are presented to students submitting the best research papers to Psi Chi sessions at regional conventions. Award monies are distributed at the conventions following the presentations. Deadlines for submissions vary according to region and sometimes from year to year; check the Psi Chi website for details.

APA or APS Society Convention Research Awards | December 1

All Psi Chi members (undergraduate and graduate) are eligible to submit their research for the Society Annual Convention Research Awards. Up to 8 awards (up to $300 undergraduate; $500 graduate) are presented to students submitting the best research papers for APA/APS conventions.

CHAPTER AND ADVISOR AWARDS

Cousins Chapter Award | February 1

The Ruth Hubbard Cousins Chapter Award is presented annually to the one chapter that best achieves Psi Chi's purpose. The winning chapter receives (1) a check for $3,500, (2) travel expenses for one chapter officer to attend the APA/Psi Chi Society Annual Convention to receive the award, and (3) a plaque to display in the winning chapter's department.

Kay Wilson Presidential Leadership Award | April 1

The Kay Wilson Leadership Award for Outstanding Chapter Presidents is presented annually to the one chapter president who demonstrates excellence in leadership of the local chapter. The winning Psi Chi chapter president receives: (1) a $500 cash award, (2) travel expenses for the chapter president to attend and make a short presentation at the APA/Psi Chi Society Annual Convention to receive the award, and (3) an engraved plaque commemorating the award.

Psi Chi/Psi Beta Building Bonds Awards | June 1

Building Bonds Awards of $100 each and a plaque are presented annually to recognize collaborative activity by a Psi Chi and a Psi Beta chapter.

Model Chapter Awards | June 30

Model Chapter Awards of $100 each are presented annually to recognize and reward Psi Chi chapters that consistently maintain outstanding records of membership inductions, chapter correspondence, service projects, and other criteria associated with being an outstanding chapter. All chapters submitting evidence of meeting these criteria are designated as winners.

Denmark Faculty Advisor Award | December 1

The Florence L. Denmark Faculty Advisor Award is presented annually to the one Psi Chi faculty advisor who best achieves Psi Chi's purpose. The award includes (1) travel expenses to attend the APA/Psi Chi Society Annual Convention to receive the award and (2) an engraved plaque. The award is intended to recognize Psi Chi faculty advisors for their outstanding service to the chapter and to Psi Chi.

Kay Wilson Officer Team Leadership Award | December 1

The Kay Wilson Officer Team Leadership Award is presented annually to the best chapter officer team who demonstrates exceptional leadership as a group. The winning Psi Chi chapter and officers receive a $2,000 cash award ($1,000 for chapter and $1,000 for officers).

Regional Chapter Awards | December 1

The Regional Chapter Awards provide annual recognition for one chapter in each region that best achieves Psi Chi's purpose. Each winning chapter receives a check for $500 and a plaque to display in the winning chapter's department. The awards are intended to perpetuate the chapters, to identify chapters as role models for others, and to promote the purposes of Psi Chi.

Regional Faculty Advisor Awards | December 1

This award is presented annually to one Psi Chi faculty advisor from each region who best achieves Psi Chi's purpose. The award is to recognize and reward actively involved chapter advisors. The winning faculty advisor from each region will receive $500 and a plaque.

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PSI CHI RESEARCH GRANTS

Psi Chi sponsors a variety of grants each year. Listed below is a brief overview.
For more information, please visit **www.psichi.org/Awards/completelist_awards.aspx**

Name of Grant	Description of Grant	Submission Deadline	Who Can Apply?	Award Amount/Prize
Graduate Assistantship Grants	Provides funding for teaching and research graduate assistantships during any academic semester	January 17	• Graduate	• Eight assistantships of $3,000
Psi Chi/Psi Beta Collaboration Grants	Provides funds for a Psi Chi chapter and a Psi Beta chaper to collaborate on a shared activity	January 20 June 1	• Chapter	• Two $500 grants
FBI NCAVC Internship Grants	Provides living expenses for a 14-week unpaid FBI NCAVC internship to conduct research	February 1 June 1	• Graduate • Undergraduate	• Two grants, up to $7,000 each
APS Summer Research Grants	Provides opportunities to conduct research during the summer with sponsors who are APS sponsor members	March 1	• Undergraduate	• Six $5,000 grants ($3,500 student + $1,500 sponsor)
CUR Summer Research Grants	Provides opportunities to conduct research during the summer with sponsors who are CUR members	March 1	• Undergraduate	• Two $5,000 grants ($3,500 student + $1,500 sponsor)
SRCD Summer Research Grants	Provides opportunities to conduct research during the summer with sponsors who are SDRC members	March 1	• Undergraduate	• Two $5,000 grants ($3,500 student + $1,500 sponsor)
Psi Chi Summer Research Grants	Provides opportunities to conduct research during the summer at nationally recognized research institutions	March 1	• Undergraduate	• Fourteen $5,000 grants ($3,500 student + $1,500 sponsor)
Faculty Advisor Research Grants	Provides funding for the direct costs of a project to support faculty advisors' empirical research	June 1	• Faculty Advisor	• Twelve grants, up to $2,000 each
STP Assessment Resource Grants	Supports projects to develop assessment tests, instruments, and processes for the APA Guidelines for the Undergraduate Psychology Major	June 1	• Psi Chi Faculty Members	• Three $2,000 grants
APAGS Junior Scientist Fellowships	Provides funding for a 1st-year or 2nd-year graduate-level project	June 30	• Psi Chi Members • APAGS Members	• Four $1,000 fellowships, (number varies)
Unrestricted Travel Grants	Funding to assist students with travel expenses to a convention not funded by Psi Chi Regional Travel Grants. Total grant money available is $22,500	September 5 December 5 May 5	• Graduate • Undergraduate	• Up to $1,500 each
Thelma Hunt Research Grants	Enables members to complete empirical research on a question directly related to Psi Chi	September 18	• Faculty • Graduate • Undergraduate	• One $3,000 grant
SuperLab Research Grants	One award for conducting the best computer-based research	October 1	• Graduate • Undergraduate	• SuperLab software • Cedrus Response pad
Undergraduate Psychology Research Conference Grants	To support local/regional undergraduate psychology conferences. Total grant money available is $15,000	October 1	• Sponsor(s) of local and regional conference	• Up to $1,000 each (number varies) + Psi Chi banner
Regional Travel Grants	$33,000 overall available to assist students with travel expenses to a regional convention	Deadlines Vary, Winter/Spring	• Graduate • Undergraduate	• Up to $400 each (number varies)
Mamie Phipps Clark Reseach Grants	Enables members to conduct a research project focusing on ethnic minorities. Total grant money available is $10,000	November 1	• Faculty • Graduate • Undergraduate	• Up to $1,500 each (number varies)
Graduate Research Grants	To provide funds for graduate students to conduct a research project. Total grant money available is $20,000	November 1 February 1	• Graduate	• Up to $1,500 each (number varies)
Undergraduate Research Grants	Funding to defray the cost of conducting a research project. Total grant money available is $30,000	November 1 February 1	• Undergraduate	• Up to $1,500 each (number varies)

RESEARCH GRANTS

Graduate Assistantship Grants | January 17

This grant provides funding for four teaching and four research graduate assistantships during any academic semester. Each grant recipient will receive $3,000. Applicants must be a graduate student who has yet to graduate and a Psi Chi member to be eligible for the program.

Psi Chi/Psi Beta Collaboration Grants | January 20 & June 1

All Psi Chi and Psi Beta chapters are elligible for these collaboration grants that provide funding for a Psi Chi chapter and a Psi Beta chapter to collaborate on a shared activity. Psi Chi will award two $500 grants.

FBI NCAVC Internship Grants | February 1 & June 1

All undergraduate and graduate Psi Chi members who are accepted as FBI NCAVC interns are eligible to apply for this internship grant. Two grants up to $7,000 will be awarded annually for the 14-week unpaid position that allows the intern to conduct research at the FBI NCAVC.

APS Summer Research Grants | March 1

All undergraduate Psi Chi members are eligible to apply for these grants (research must be conducted while still an undergraduate, not after graduation). The purpose of the program is to allow students to conduct research during the summer with a faculty sponsor who is a member of APS. Psi Chi awards six $5,000 grants (a stipend of $3,500 to the student plus $1,500 to the faculty sponsor).

CUR Summer Research Grants | March 1

All undergraduate Psi Chi members are eligible to apply for these grants (research must be conducted while still an undergraduate, not after graduation). The purpose of the program is to allow students to conduct research during the summer with a faculty sponsor who is a member of CUR. Psi Chi awards two $5,000 grants (a stipend of $3,500 to the student plus $1,500 to the faculty sponsor).

SRCD Research Grants | March 1

All undergraduate Psi Chi members are eligible to apply for these grants (research must be conducted while still an undergraduate, not after graduation). The purpose of the program is to allow students to conduct research during the summer with a faculty sponsor who is a member of SRCD. Psi Chi awards two $5,000 grants (a stipend of $3,500 to the student plus $1,500 to the faculty sponsor).

Psi Chi Summer Research Grants | March 1

All undergraduate Psi Chi members are eligible to apply for these summer research grants (research must be conducted while still an undergraduate, not after graduation). The purpose of this program is to provide funds for members to conduct summer research at nationally recognized research institutions. Psi Chi will award 14 grants of $5,000 (a stipend of $3,500 to the Psi Chi student plus $1,500 to the sponsoring faculty member at the research institution each year).

Faculty Advisor Research Grants | June 1

All current faculty advisors and coadvisors who have served an active Psi Chi chapter for at least one year are eligible to apply for these faculty advisor research grants. The purpose of this program is to provide funds for advisors to defray the direct costs of conducting a research project (no stipends included). Twelve grants of up to $2,000 are available annually.

STP Assessment Resource Grants | June 1

All Psi Chi faculty members are eligible for these grants, which support projects to develop assessment tests, instruments, and processes. Psi Chi will award three $2,000 grants.

APAGS Junior Scientist Fellowships | June 30

All Psi Chi and APAGS members entering their first or second year of graduate school are eligible for these fellowships that provide funding for direct costs of psychological science research projects. Applicants must be a member of both organizations at the time of submission to be eligible.

Unrestricted Travel Grants | September 5, December 5, May 5

Winning applicants will receive funding of up to $1,500 to attend a psychology or psychology related convention that is not funded by the Psi Chi Regional Travel Grants (EPA, MPA, RMPA, SEPA, SWPA, and WPA). Annually $22,500 is available for this program with at least $7,500 available per funding round. Any funds not distributed in previous funding rounds will be available for the next round.

Thelma Hunt Research Grants | Sept 18

All Psi Chi student and faculty members are eligible to apply for a Thelma Hunt Research Grant. One $3,000 grant is presented annually to enable members to complete empirical research that addresses a question directly related to Psi Chi.

SuperLab Research Grants | Oct 1

All undergraduate and graduate Psi Chi members are eligible to apply for these research grants. Grant winners receive a copy of SuperLab experimental lab software and a response pad from Cedrus®.

Undergraduate Psychology Research Conference Grants | Oct 1

The purpose of this program is to provide funds for local/regional undergraduate psychology research conferences. Funding is intended for conferences that will invite student research presenters from at least three schools in the area and will notify all Psi Chi chapters in the geographic area of the conference. The maximum grant for each conference is $1,000.

Regional Travel Grants | Deadlines Vary (Winter/Spring)

All graduate and undergraduate Psi Chi members are eligible for these regional travel grants that provide funding to assist students with travel expenses to a regional convention. Each grant offers up to $300 each; $33,000 total available.

Mamie Phipps Clark Research Grant | November 1

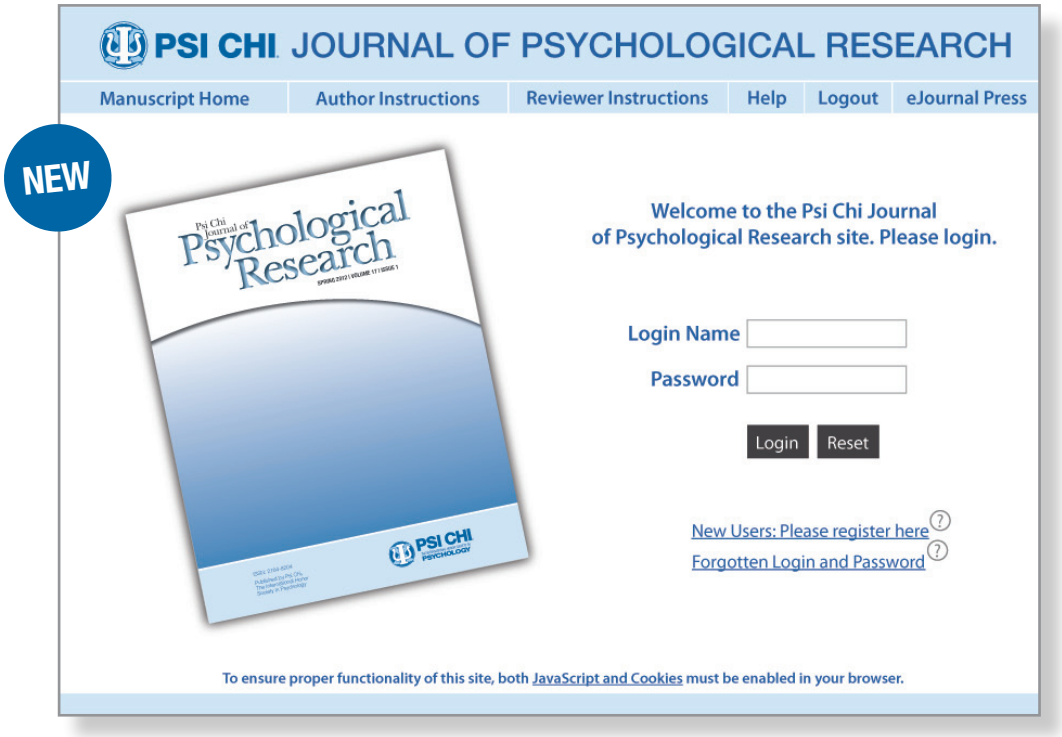
All Psi Chi members (faculty, graduate and undergraduate students) are eligible for the Mamie Phipps Clark Research Grant. Each grant offers up to $1,500 to defray the costs of conducting a research project focusing on ethnic minorities. Total funding available is $10,000 per year, and the program begins in 2012.

Graduate Research Grants | November 1 & February 1

The purpose of this program is to provide funds for graduate student members to defray the cost of conducting a research project. Applicants may request up to $1,500 for each project. A total of $20,000 has been allotted for this student grant program.

Undergraduate Research Grants | November 1 & February 1

The purpose of this program is to provide funds for undergraduate student members to defray the cost of conducting a research project. Applicants may request up to $1,500 for each project. A total of $30,000 has been allotted for this student grant program.



Online Journal Submission Process

All Psi Chi undergraduates, graduates, and faculty* are invited to submit their research to the *Psi Chi Journal of Psychological Research* through the new web based manuscript submission, tracking, and peer review software solution. Better than email submissions used in the past, this software allows users to create personal accounts to make the submission process more efficient.

Four items are required for all submissions:

1) **Cover Letter**
   Include primary author's education status, manuscript originality statement, IRB approval
2) **Sponsoring Statement**
   Undergraduate first authors only
3) **Cover Page**
   Author names, school affiliation, and any author note
4) **Masked Manuscript**
   MS Word with all personal information removed

Simply register an account, then click Submit Manuscript:

1) **Upload Files**
   Files can be removed, replaced, or reorganized
2) **Enter Manuscript Information**
   E.g., title, abstract, authors, keywords, etc.
3) **Review Manuscript Material**
   Summary of all information/ files submitted
4) **Submit Manuscript**
   Receive email confirmation

New software benefits:

- Allows users to track their manuscripts' progress
- Inserts multiple files including cover letters, manuscripts, and figures
- Permits users to prioritize files and coauthors
- Checks for mistakes in the submission process and points out any errors
- Streamlines the process for authors and reviewers

* Psi Chi member ID number required

Register an account: http://pcj.msubmit.net/cgi-bin/main.plex
Tutorial videos: http://www.ejpress.com/demos

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