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Influences on Career Choice During Adolescence

Many theorists have investigated various aspects of career development during adolescence; however, most of these studies have involved college-aged students. The present study specifically investigated career choice and future plans among high school students. To see what factors influence students’ career aspirations, high school students from two high schools completed a questionnaire. The questionnaire asked students about their academic future, career aspirations and expectations, as well as who had been influential in their students’ lives. As hypothesized, academic risk reported by the student influenced future plan aspirations. For example, those students who were at a high academic risk had low aspirations for future plans. Also as predicted, there were no differences between parental occupation and children’s reported job plans. Theoretical implications and directions for future research are discussed.

Parenting styles and parent-child relationships are linked to identity development during adolescence. Parents who encourage their adolescent in decision making for the family tend to promote identity achievement. Parents who do not encourage this type of decision making tend to promote identity foreclosure. Passive and lenient parents, on the other hand, who allow their children to make their own decisions, promote identity diffusion. Families that offer support and allow for individual decision making allow for the advancement of the most effective atmosphere for positive identity development (Santrock, 2007; Berzonsky, Branje, & Meeus 2007).

Other psychosocial resources, such as personal effectiveness and adaptability, are also related to identity development, because they allow for an individual to develop a committed sense of purpose and the capability to have control of his or her life. This commitment serves as the template for how an individual will perform in life in everyday situations and solving problems. Individuals are likely to have high levels of academic achievement, be capable of adapting to situations, and have low levels of problem behaviors when they have high levels of self-regulatory resources. Psychosocial resources are correlated with these desirable outcomes (Berzonsky, 2003).

The socialization of work is another factor affecting occupational choice in adolescence. Long before individuals enter the work force, they are being socialized to work by various sources. This process of socialization continues throughout their career. People begin accumulating their knowledge about the work force in early childhood, primarily from their parents, friends, and schools (Levine & Hoffner, 2006).

Parents are a primary source of socialization and also serve as influential factors in their children’s career choices. In the family, children are first exposed to social and gender role behavior through chores around the house and through the power differences amongst family members. This gives children information about future interactions of superior-subordinate relationships (Levine & Hoffner, 2006). At home, children are made aware of the importance of education and school in their household. This in turn affects the attitudes and motivation children have towards school, which can be either positive or negative. (Koutsoulis & Campbell, 2001).

According to Levine and Hoffner (2006), friends are another influential socialization source for children and adolescents. Through interactions with friends, adolescents can discuss career goals and receive feedback on their career choices. Information on career aspira-
tions can be shared amongst friends who have similar interests. After-school activities, sports in particular, provide a great deal of socialization through decision making and problem solving (Levine & Hoffner).

Furthermore, schools are an important source of socialization for children and adolescents. Schools serve to socialize students by giving them the skills necessary to be effective in the work force. They also give students exposure to hierarchical relationships other than those displayed in the family. Interactions between students, teachers, principals, and counselors can be observed. Schools also allow the students to observe and participate in activities with others in their age group (Levine & Hoffner, 2006).

One major influential source of motivation for children and adolescents that Levine leaves out of his study, are the children and adolescents themselves. The way students perceive their abilities has an impact on their behavior and attitudes. Likewise, the students’ perception of their school and teachers will have an impact on their academic performance as well. A positive attitude is linked with higher education aspirations because the more able students feel in a particular subject, the more positive their attitude toward that subject, and the more likely students will want to continue to engage in these types of settings (Koutsolis & Campbell, 2001).

Many studies have been conducted investigating the various aspects of career development during adolescence. One study of particular significance to the present study investigates parental expectations and the barriers to career aspirations. According to the researchers, there are several barriers that can affect the occupational choices of adolescents. These barriers include socioeconomic status, family attitude, and poor school engagement (Creed, Conlon, & Zimmer-Gembeck, 2007). The researchers note that although there are barriers to occupational choice, the relationship between these barriers and actual occupational functioning is difficult to understand. Some individuals may be restricted by these barriers, while others use them as motivation for achievement (2007).

The results of Creed et al.’s (2007) study demonstrated that adolescents and their parents typically hold high career expectations; they found a correlation between the child’s individual expectations for the career development and their parent’s expectations for the child. These findings are reflective of previous findings indicating that parents are influential and have an impact on their children’s future career aspirations.

Recent research conducted by Dreher and Dreher (as cited in Kracke, 2002) on German middle school students suggests that one of the most important activities adolescents engage in concerning their future career plans involves information gathering. This process allows students to discover several different career choices, while considering internal factors such as individual abilities, goals, and their plans to achieve such goals. The results of this study showed that adolescents are heavily influenced by their exploration of their environment and the self when selecting a future occupation. This study illustrates Super’s idea of career development. Super (1990) found that the exploration of external and internal environments is crucial in selecting an occupation. This choice parallels individual interest, ability, and job availability in the work force.

Berrios-Allison (2005) investigated college students’ occupational choice and its relation to connectedness and separateness using a family systems perspective. The results of this study indicate that the students who were most likely to achieve came from families with a higher income. The researchers connect this to Weinger’s (1998) theory that children who come from lower income families will have a more difficult time obtaining their career goals. They also suggest that this supports the idea that both material and emotional support is required for individuals to make rewarding decisions.

The purpose of the present study was to increase the body of knowledge concerning the influences on career choices and future plans during adolescence. While many studies have examined these influences, they were often explored using college student samples. Although typical college students are still in late adolescence, the fact that they are in college already indicates some premeditation of future career choice. The current study specifically investigates career choice and future plans in high school students. It was hypothesized that students will aspire to a job with a similar level of job prestige as parents’ current occupations. In addition, it was hypothesized that students who have more problems in school will be less likely to plan to go to college after high school. Because there are several factors that play into career choice, influences of specific relationships were also explored.

Method

Participants

Two high schools in a Western Colorado school district were asked to participate in a study which surveyed students about their future aspirations. One hundred and eleven high school students chose to participate in the study from classes taught by one math, one English, and one science teacher from each school (48% boys and 52% girls). Thirty-two percent were freshmen, 21% sophomores, 21% juniors, and 25% were seniors. The mean age of the male participants was 16.02 (SD = 1.34 years), and the mean age of the female participants was 16.05 (SD = 1.28 years).
was 15.38 (SD =1.21 years). Of the sample taken, 85% of the students were White, 12% Hispanic, 1% African American, and 1% were Native American. Participants were treated in accordance with the Ethical Principles of Psychologists and Code of Conduct (American Psychological Association, 2002).

Materials
Students from both high schools were given a questionnaire to complete. The questionnaire asked about students’ academic future, career aspirations and expectations, as well as who has been influential in the students’ lives. The students were asked to state their real job and job they aspire to do. Real job was defined as what job the student realistically think they will end up doing, where are the job they aspire to do. Ideal job was defined as what job the student realistically think they will end up doing, where are the job they aspire to do ideally. Students were also asked about trouble in school in order to assess academic risk. Students were asked to state their parents’ occupations and to rate the influence that certain individuals had on their lives. All occupations (parents, current and students’ career aspirations and expectations) were rated by prestige scores given by the National Opinion Research Center (Davis & Smith, 2002). Those scores were then further categorized based on the standards set by the National Opinion Research Center by level of prestige. This level was high, medium, or low prestige with scores of 3 (high), 2 (medium), or 1 (low). Examples of high, medium, and low prestige jobs are presented in Table 1. Nine questionnaires were not used because they were incomplete. Those questions which were given multiple answers were assigned the answer with the highest number scored. Students used a Likert scale ranging from 1 (very confident) to 7 (not at all confident). Students used a Likert scale to rate different people in terms of their influence over the student. Questions left blank on the questionnaire were left blank during data entry. Those who indicated an “other” category under the influential section were entered only if they also assigned a number with their stated written answer.

Procedure
Parental and student consent was required. Each teacher participating in the study was given an outline of instructions. These instructions gave directions to administer the questionnaire during class time. For incentive purposes, a candy bar was given to those students who returned their consent form regardless of whether or not the parent gave consent. Students who were 18 years of age or older were not required to obtain parental permission to participate in the study.

Results
To examine if student plans after high school varied by sex of the participant, an ANOVA was performed. The result was statistically significant, F(1, 110) =4.07, p < .05. Female participants (M = 7.22, SD = 1.43) reported having higher aspirations than the male participants (M = 6.58, SD = 1.90). Due to this significance, males and females were separated for further statistical analysis. Correlations revealed that the students’ real job and plans were positively correlated for males, r = .30, p < .05. Plans and mother’s influence were also positively correlated for males, r = .30, p < .05. Trouble in school and plans were negatively correlated for males, r = -.32, p < .05. Confidence and plans were negatively correlated for females, r = -.30, p < .05. Although there was no significant difference found between students’ level of chosen job prestige and their parents’ level of job prestige, there was a trend showing students aspiring to a slightly higher level of prestige than their parents. Figure 1 shows this trend.

Discussion
Parental Occupational Status
As predicted, there were no significant differences found between the level of prestige for parents’ job and level of prestige for their children’s reported real job. Although there was no significant difference between the level of prestige for parent and student jobs, the trend showed children aspiring to a slightly higher level of prestige for the students’ reported real job. This could be due to the career barriers in students’ lives acting as motivation to achieve more highly than their parents, rather than restricting them (Creed et al., 2007). It could also be that these students achieve well in school, and therefore have higher career aspirations than those who do not.

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Although parental occupational status was not directly correlated with the students’ reported occupation in this study, it has been found that parental involvement is twice as predictive of their children’s achievement as the family’s socioeconomic status (Chavkin, 1989). Maternal interaction with her preschool child has been found to influence the development of the child’s cognitive proficiencies. This study shows that poor minority mothers interact differently with their children than middle-class white mothers. However, in a study done by Chavkin and Williams (1985), a survey of more than 3,000 parents and 4,000 educators showed that regardless of ethnicity, all parents are concerned about their children’s education (as cited in Chavkin, 1989). However in a study comparing middle-class and working-class students, middle-class mothers’ expectations for their sons did influence the son’s expectations more than those of daughters. They found that middle-class mothers’ expectations have a more positive effect on their sons than their daughters (Baker & Entwisle, 2001). This supports the present finding regarding the mothers’ influence on their son’s achievement.

Problems in School
In concurrence with our hypothesis, academic risk reported by the students influenced future plan aspirations. However, this was only significant with male students. This may be due to the students’ level of self-esteem. Self-esteem is an important factor which plays a role in the career decision process. Adolescents will have the least amount of confusion regarding their future career objectives when they have high self-esteem during this explanatory period of identity development (Santrock, 2007). High self-esteem is correlated with more conforming behavior than low self-esteem. Therefore it is tacit that those students with low self-esteem will not only be higher in academic risk, but will also have lower expectations and this low expectation will correlate with lower prestige jobs. Several studies (e.g., Dupuyrat & Marine, 2005), (as cited in Hardre, Crowson, Debacker, & White, 2007) have found that motivation for a specific subject in school can be influenced by the students’ individual perception of ability. When the perceived ability is high, students will be more performance-oriented and therefore be more competitive. However, when the perceived ability is low, students will be more likely to avoid public displays of their low ability (Hardre et al., 2007). Elliot (1999), (as cited in Hardre, Crowson, Debacker, & White, 2007) describes two performance goals which differ in valence. Performance-approach goals, as indicated by Elliot, indicate positive valence and high ability. This type of approach includes high aspirations, and high academic achievement. The other type of approach is the performance-avoidance goal, which has a negative valence and has been linked to poor academic achievement and reduced motivation.

Other Findings
Another result we found statistically significant was the mothers’ influence on their sons’ future aspirations. A study conducted by Baker and Entwisle (2001) found that mothers with students in middle-class schools expected more from their sons than mothers with students in working-class schools.

The present finding that girls have higher career aspirations than boys is consistent with findings of previous research conducted by Wallace-Broschious, Serafica, and Osipow (1994). They found a significant gender difference in the reported career exploration and planning of high school students with girls engaging in greater career exploration and planning. They also found that male participants reported higher levels of career indecision than females.

Wallace-Broschious et al. (1994) investigated the relationship between grade differences and self-concept and identity statuses. Their results suggested that scholastic ability was related to career maturity and varied by grade. For example, freshman students were found to have a significant relationship between career maturity, scholastic ability, job ability, and behavioral conduct. Seniors, on the other hand, only had one domain related to self-perception and career decidedness. That domain was their scholastic ability. One reason for this could be that seniors have a better understanding that scholastic achievements have more of an impact
on their future jobs than their current job or current behavioral conduct.

Limitations
There are several limitations in this study that need to be addressed. First, this study is vulnerable to possible response bias. Those plans reported after high school involving more education (e.g., entering a university) were rated higher than plans that did not involve more education (e.g., entering the military). These scores were determined using the prestige scores given by the National Opinion Research Center (NORC; Davis & Smith, 2002). In addition, because this information was obtained only from the self-report of students and these students will not be followed longitudinally, it is hard to obtain good evidence of the validity of the students’ responses. It is important to remember that correlation does not imply causation. Future research needs to inquire about the students’ family structure. The family structure could impact the amount of influence each parent has on career development.

To have a better representation of adolescents nationwide, future research needs to include a bigger sample size and be conducted in both rural and urban high schools. Also, further examination and expansion on identity development and its relation to career choice during adolescence needs to be addressed. While many studies have examined this relationship, this area needs to be expanded to include the complete age range of adolescence. Future studies also need to examine any major shifts in career choice and during which stages of adolescent development that this occurs.

Finally, future research should make this study longitudinal. This will allow the researchers to follow the students throughout high school and early adulthood to determine if they follow through with their original aspirations.

References
Effects of Presenting Concern and Therapeutic Relationship on College Counseling Outcomes

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Given the substantial severity of psychopathology among college students, the current study sought to identify variables associated with positive outcomes among college counseling center clients. The study explored how a client's presenting concern and therapeutic alliance variables relate to positive counseling outcomes, such as progress and goal attainment. Thirty-two undergraduate counseling clients indicated their presenting concern and rated levels of trust, comfort, goal attainment, and therapy outcomes. Findings revealed that the perceived strength of the therapeutic alliance directly related to positive outcomes in therapy. Unexpectedly, college students who presented with issues of college adjustment and interpersonal problems were more psychologically distressed than those who presented with substance abuse or preexisting conditions.

Clinicians in college counseling centers have noted significant increases in the severity levels of presenting concerns among students seeking services at college counseling centers. In 1984, 54% of college counseling center directors believed that they had seen an increase in severity of problems among students (Gallagher, 1984). By 1994, this figure increased to 84% (Gallagher, Bruner, & Weaver-Graham, 1994); and by 2004, 86% of directors believed caseload severity was increasing (Gallagher, 2004). In an examination of over 13,000 college counseling center clients over a 13-year period, Benton, Robertson, Tseng, Newton, and Benton (2003) found significantly increased severity in 14 of the 19 client problem areas including relationship issues, depression, and personality disorders.

Empirical research on severity levels has yielded mixed results. While Gallagher’s survey results, spanning from 1984 to 2004, support the notion of increasing pathology, several studies have failed to find increasing severity (e.g., Kettmann, et al, 2007; Schwartz, 2006). Benton et al. (2003) found that objective assessments have failed to find increasing distress levels, at least in part, because severity is poorly defined. Because severity has been subjectively defined and confounded with presenting concern in previous research, the present study examines the relationship between the two in order to determine whether presenting concern serves as a useful predictor of outcome.

Current research shows that roughly one-third of the college counseling center clients can be considered moderately or highly distressed based on comprehensive assessments such as the Symptom Check List-90 and the Outcome Questionnaire (Johnson, Ellison, & Heikkinen, 1989; Wolgast, et al, 2005). A comparison of counseling center clients with other students revealed significantly higher rates of depression and anxiety among clients, with prevalence rates ranging from 28 to 39% (Green, Lowry, & Kopta, 2003). Due to these high severity levels, predicting differential outcomes among college students receiving counseling is necessary to enhance the effectiveness of mental health services for students.

A wealth of counseling research has demonstrated that the strength of the therapeutic alliance between counselor and client is one of the strongest predictors of counseling outcomes (Horvath & Symonds, 1991; Martin, Garske, & Davis, 2000). Paris, Anez, Bedregal,
Andres-Hyman and Davidson (2005) found that as the therapeutic alliance strengthened between Latin American women and their counselors, the women became more satisfied with their services. Nabors, Weist, Reynolds, Tashman and Jackson (1999) found that urban minority adolescents placed a high value on the therapeutic relationship when assessing the mental health services at their school. Furthermore, Williams (1974) found that regardless of racial background or therapist matching, clients felt more comfortable with and trusted their counselors more after a relationship had been built between counselor and client. The converging results of research with various client groups demonstrate that development of a positive relationship between counselor and client leads to increased client disclosure, trust in the counselor, client satisfaction, and higher ratings of counselor effectiveness among both adolescents and adults.

A successful counseling relationship has also been associated with positive outcomes among adolescents and college students (Coll & Stewart, 2002; Nabors et al., 1999). Rochlen, Rude, and Baron (2005) found that a strong working alliance was significantly correlated with progress as assessed by the Outcome Questionnaire and the Stages of Change Scale. Martin and Garske’s (2000) review of the literature concludes that the therapeutic alliance is consistently related to outcome, regardless of other variables. Due to these robust findings, the current study examined the relationship between therapeutic relationship variables and outcome in college counseling center clients.

Given the substantial levels of psychopathology among college students, the present study sought to identify variables associated with positive outcomes among college counseling center clients. It was expected that certain presenting concerns (including college adjustment and interpersonal problems) would lead to more positive outcomes. It was also anticipated that increases in trust, comfort, disclosure, and confidence in the therapeutic alliance variables would be related to positive counseling outcomes.

Method

Participants

Thirty-two undergraduate students who were receiving counseling at a small private college in the mid-Atlantic region participated in this study. Fourteen participants were men and 18 were women. The mean age was 19.41. Most participants were Caucasian (n = 29), while the other participants were American Indian/Alaskan Native (n = 1), Hispanic (n = 1) and African American (n = 1). Twenty-nine of the participants were heterosexual, one was homosexual, and one was bisexual. Of these college students, 10 were freshmen, 8 were sophomores, 9 were juniors, and 5 were seniors. Most students were either single (n = 21) or in a committed relationship (n = 10); however, one student was married. Seven students indicated college adjustment-related issues as their presenting concern, 15 with interpersonal/relationship issues, six indicated alcohol/substance abuse issues, one rape/sexual assault issue, and 17 indicated other issues (including pre-existing conditions such as depression and anxiety). Several respondents indicated more than one issue.

Materials and Procedure

All students who received counseling services during the fall semester of 2007 were asked to complete a questionnaire which gathered demographic information and assessed participants’ perception of their therapeutic relationship and therapy outcomes. Participants rated the extent to which they felt their counselor was genuine and trustworthy, as well as their level of comfort, disclosure, and satisfaction with the counselor. They also rated the extent to which they made progress toward their goals, learned about themselves, and learned coping skills. Retention likelihood was assessed by asking participants to rate their academic improvement and the extent to which they are more likely to stay at college after counseling. Each item was rated on a Likert scale (see Appendix).

Participants also completed the Outcome Questionnaire for Adults (OQ-30.2) (Lambert, Finch, Okiishi, & Burlingame, 2005). The OQ-30.2 is a 30-question, self-report measure that assesses assessment as defined by life satisfaction, academic and/or work satisfaction, and relationship satisfaction. In the validation sample, the OQ-30.2 demonstrated acceptable internal consistency reliability (α = .93) among college students and convergent validity with the Symptom Checklist-90 and the Beck Depression Inventory (r = .70 and .61, respectively; Lambert et al., 2005). Scores on the OQ-30.2 range from 0-120, with higher scores indicating higher levels of distress. Internal consistency reliability for the OQ-30.2 was acceptable in the current study (α = .89).

In order to ensure confidentiality, no identifying information was collected. Each participant received an informed consent form stating that he or she could withdraw from the study at anytime. After the surveys were completed and returned to researchers, data was entered into SPSS for statistical analysis.

Results

Participants who sought counseling for college adjustment-related issues had a higher average OQ-30.2 score (M = 59.29), than those who indicated that they sought counseling for other reasons (M = 44.62), t(30) = 2.59,
Participants seeking services for interpersonal/relationship issues had a higher average OQ-30.2 score ($M = 53.37$), than those not in counseling for interpersonal/relationship issues ($M = 42.94$), $t(30) = 2.16, p < .05$. Women yielded significantly higher scores ($M = 52.31$) than men ($M = 42.07$), $t(30) = 2.1$, $p < .05$. The 95% CI for Q scores for clients with each presenting concern fell within the mild-moderate or severe range (see Figure 1).

Significant positive correlations were found among concern, trust, comfort, willingness to share, and satisfaction (see Table 1). When clients perceived the counselor as being genuinely concerned about them, they reported that the counselor was trustworthy ($r = .98$), they were comfortable with the counselor ($r = .91$), they disclosed more to the counselor ($r = .85$), and they were more satisfied with counseling ($r = .89$). Significant positive correlations were also found among therapeutic relationship variables, such as satisfaction with counseling, and several outcome variables. Participants who reported a strong therapeutic relationship with the counselor also indicated reaching their goals ($r = .88$), making progress toward goals ($r = .90$), learning about themselves ($r = .87$), acquiring coping skills ($r = .79$), and improving academic performance ($r = .47$). Participants who reported learning coping skills also indicated improvements in academic performance ($r = .57$). There was no significant correlation between therapeutic relationship variables and outcome as measured by the Outcome Questionnaire (OQ-30.2).

**Discussion**

As expected, significant differences in overall adjustment were observed depending on a student’s reason for seeking counseling. It was originally assumed that the brief therapy utilized by college counseling centers would be more effective with college adjustment and interpersonal/relationship issues due to their decreased complexity and severity; however, the results challenged this assumption. Students who presented with college adjustment-related issues reported higher levels of distress than those who attended counseling for other reasons. Students seeking services related to interpersonal/relationship issues showed higher levels of distress than those who sought counseling for substance abuse. The mean scores for students with college adjustment-related issues and interpersonal relationship issues were in the moderately distressed range (see Figure 1). Given the elevated level of distress for these groups, the traditional assumption that college counseling centers primarily serve individuals with only mild psychological distress seems unwarranted. College counseling centers should document this trend and bring it to the attention of administrators in order to secure increased resources to meet increasing demand for services.

Findings also indicate that women reported higher levels of distress overall than did men. Because participant distress levels were self-reported, the differences between men and women may indicate that women are more likely than men to acknowledge that they are distressed, regardless of their absolute level of distress. It is possible that social pressures might make women more susceptible to higher stress levels. Because women reported a statistically significant difference in outcome from men, explanations for the sex differences warrant further study.

By contrast, findings concerning the therapeutic relationship were consistent with expectations. Positive correlations between therapeutic relationship variables and counseling outcomes were observed. Because genuineness, trust, comfort, and disclosure are integral components of developing an effective therapeutic alliance, each of these variables was associated with positive counseling outcomes. Given the strong and consistent relationship between therapeutic alliance variables and outcome, it seems likely that the strength of the alliance was critical in these positive outcomes; including goal attainment, perceived progress, learning about oneself, acquisition of coping skills, and improved academic performance. These findings imply that college counseling center staff should focus on

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**FIGURE 1**

Outcome Questionnaire (OQ-30.2) scores for groups defined by presenting concern including, college adjustment-related issues (Adju), interpersonal/relationship issues (Inter), substance abuse (Subs), rape/sexual assault (Rape), and other concerns. Cutoff scores for the OQ-30.2 were used to define scores as reflecting normal, mild-moderate, and severe adjustment problems.
the strength of the therapeutic alliance, even within a brief therapy model.

Given that one of the central goals of college counseling centers is to decrease mental health concerns which impede academic success, it is noteworthy that academic performance was significantly positively correlated with the acquisition of coping skills during counseling. It seems likely that the coping skills acquired through therapy sessions helped students deal with stressors of everyday life, thereby improving academics. Outcome measures such as perceived progress and learning about oneself were also positively correlated with academics. Once participants perceived progress in their counseling sessions, they may have been better able to focus on coursework, thereby learning more and improving their grades.

Administrators commonly perceive that a secondary goal of college counseling centers is to increase retention at the college. Given this perception, it is interesting that no significant correlations were found between intention to remain at the college and therapeutic relationship variables or outcome. There are several possible reasons for the lack of significant correlations with college retention. It is possible that students may not have seen their counseling outcomes as related to remaining at the college because they did not have any intention of leaving the college in the first place or because their positive counseling experience helped them decide that this college was a poor fit for them. Future research should explore the reasons for this apparent lack of association with college retention.

Limitations
Reliance on self-reported data limits this research because clients’ self-reported reasons for coming to counseling may not accurately reflect the issues that were causing their distress. The higher distress levels reported among those who indicated college adjustment and interpersonal issues as their presenting concern may have resulted from other underlying issues. It is also possible that students reported less severe issues because they are perceived as more socially acceptable. If students were experiencing several symptoms, they may have attributed their distress to less severe causes in order to minimize their perception of their psychological distress, despite the fact that other underlying issues may have been involved.

The correlations between the OQ-30.2 and the other variables were not significant. Participants were asked to rate therapeutic relationship and outcome variables on a Likert scale from strongly agree to strongly disagree (see Appendix A). Considering contradictory qualitative responses, it is likely that some participants misinterpreted this instrument and transposed their intended ratings. Therefore, this problem could account for the fact that there was no significant relationship between the Likert scale questions and

### TABLE 1

<table>
<thead>
<tr>
<th></th>
<th>Conc</th>
<th>Trust</th>
<th>Share</th>
<th>Comf</th>
<th>Satis</th>
<th>Goal</th>
<th>Prog</th>
<th>Lear</th>
<th>Cope</th>
<th>Ret</th>
<th>Aca</th>
<th>OQ</th>
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<td>.87**</td>
<td>.79**</td>
<td>.24</td>
<td>.47</td>
<td>.22</td>
<td></td>
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<td>.86**</td>
<td>.70**</td>
<td>.10</td>
<td>.38</td>
<td>.23</td>
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<td>Lear</td>
<td>1</td>
<td>.74**</td>
<td>.17</td>
<td>.43</td>
<td>.12</td>
<td></td>
<td></td>
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<td>Cope</td>
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<td>.17</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Note. Conc = counselor’s concern was genuine, Trust = counselor was trustworthy, Share = shared information with counselor, Comf = shared more when comfortable, Goal = reached goals, Prog = made progress, Lear = learned about self, Cope = learned coping skills, Ret = more likely to stay at college, Aca = improved academic performance, OQ = total adjustment score on the Outcomes Questionnaire.

*p < .05. **p < .01.
the OQ-30.2. However, it is also possible that no significant relationship exists between therapeutic relationship variables, counseling outcome, and several items on the OQ-30.2, as observed by Vermeersch, et al. (2004). Lastly, given the small sample size in this study, further research is warranted to confirm that these findings can be generalized to the population of college students.

Despite these limitations, this study supports previous findings that therapeutic relationship variables are integral to the development of an effective working alliance. In addition, a strong working alliance relates to a positive outcome including overall satisfaction, goal attainment, perceived progress, learning about oneself, and acquisition of coping skills. While further study could offer alternative explanations for current findings, it can be concluded that college counseling centers should not subscribe to the traditional assumption that individuals presenting with college adjustment issues are less distressed. A counseling center’s ability to accurately assess distress in clients increases the likelihood that students will get the help they seek. The OQ-30.2 could be a helpful tool for counselors to use before the first session with each client, as well as periodically to monitor changes in distress levels. These results suggest that college counseling centers should consistently evaluate and adjust to meet the increasing demand for services, given the levels of distress and severity of problems among their clients.

References
APPENDIX

COUNSELING SERVICES EVALUATION

The following questions will be used to help us evaluate Counseling Services. Please take a few minutes to fill out the questionnaire and return it to Counseling Services through campus mail. Thank you.

Age_________ Gender            □ Male           □ Female
Race/Ethnicity          □ American Indian       □ Asian/Pacific Islander □ African American
                        □ White/Anglo Caucasian □ Hispanic                  □ Other:__________
Sexual Orientation      □ Heterosexual            □ Homosexual     □ Bisexual                  □ Other:__________
Year in School          □ Freshman                  □ Sophomore      □ Junior                    □ Senior                □ Graduate
Relationship Status     □ Single                     □ In a committed relationship □ Married     □ Other __________

Reasons for coming to counseling:
□ College adjustment related (e.g. trouble eating, sleeping, homesickness) Specify__________
□ Inter personal/relationship
□ Alcohol/substance related
□ Rape/sexual assault
□ Other (including conditions present before coming to college, such as anxiety or depression)
Please specify: __________________________________________

Rate the extent to which you agree with the following. Circle one response for each item.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I felt that my counselor’s concern for me was genuine.</td>
<td>1 2 3 4 5</td>
<td>N/A</td>
</tr>
<tr>
<td>2. I felt that my counselor was trustworthy.</td>
<td>1 2 3 4 5</td>
<td>N/A</td>
</tr>
<tr>
<td>3. I felt comfortable sharing information with my counselor.</td>
<td>1 2 3 4 5</td>
<td>N/A</td>
</tr>
<tr>
<td>4. As I felt more comfortable in the relationship with my counselor, I opened up and shared more with her.</td>
<td>1 2 3 4 5</td>
<td>N/A</td>
</tr>
<tr>
<td>5. As I shared more with my counselor, I became more satisfied with my therapy experience.</td>
<td>1 2 3 4 5</td>
<td>N/A</td>
</tr>
<tr>
<td>6. Counseling was effective in helping me reach my goals.</td>
<td>1 2 3 4 5</td>
<td>N/A</td>
</tr>
<tr>
<td>7. I made progress toward my goals.</td>
<td>1 2 3 4 5</td>
<td>N/A</td>
</tr>
<tr>
<td>8. I learned more about myself.</td>
<td>1 2 3 4 5</td>
<td>N/A</td>
</tr>
<tr>
<td>9. I learned coping skills that will help me in the outside world.</td>
<td>1 2 3 4 5</td>
<td>N/A</td>
</tr>
<tr>
<td>10. I am more likely to stay at college after counseling.</td>
<td>1 2 3 4 5</td>
<td>N/A</td>
</tr>
<tr>
<td>11. Counseling has helped my academic performance.</td>
<td>1 2 3 4 5</td>
<td>N/A</td>
</tr>
</tbody>
</table>
The loss of memory and general cognitive declines that are common symptoms of aging are seen in both human and nonhuman animals. Lapses in spatial memory, or the memory for place, are some of the first memory loss problems that an aging individual will encounter (Beatty, 1988). Enrichment, begun at any age, considerably improves the function of memory in mice (Bennett, McRae, Levy, & Frick, 2006; Frick, Stearns, Pan, & Berger-Sweeney, 2003; Harburger, Nzerem, & Frick, 2007; Lambert, Fernandez, & Frick, 2005; Van der Borght, Havekes, Bos, Eggen, & Van der Zee, 2007). Environmental enrichment for rodents takes many forms beyond providing standard animal housing. Examples include social enrichment (i.e., housing animals in the same cage), physical exercise (i.e., placing open exercise wheels in cages for animal use), and cognitive stimulation (i.e., toys, tunnels, or housing). These forms of enrichment have been shown to improve spatial memory function in mice (Lambert et al., 2005; Van der Borght et al., 2007). Yet the clearest evidence of significantly improved memory function has come from studies with groups of middle-aged or aged mice or rats (Bennett et al., 2006; Frick et al., 2003; Harburger et al., 2007) that experienced continuous enrichment (4 weeks of 24 hour exposure).

Harburger et al. found that any one of the forms of continuous enrichment increased spatial reference memory in aged mice, while Bennett et al. noted that aged mice in a continually enriched environment demonstrated spatial memory results in the Morris Water maze that mimicked those of young controls. Environmental enrichment improved spatial memory for aged and middle-aged mice and rodents (Frick & Fernandez, 2003; Frick et al., 2003), while 24 hr complex environmental enrichment produced spatial memory results that mimicked those of young control mice (Bennett et al., 2006). While enrichment was shown to improve spatial memory, the forms of enrichment used were varied (e.g., exercise, cognitive toys, social housing). It is unclear if one form of enrichment is “better” than another in its effects on spatial memory when directly compared.

Harburger et al. (2007) expanded on the common enrichment study variables (age, type of enrichment, complex environmental enrichment and spatial reference memory in middle-aged mice).

Complex Environmental Enrichment and Spatial Reference Memory in Middle-Aged Mice

The effect of different forms of continuous environmental enrichment on the spatial reference memory of 22 middle-aged female CB57BL/6 mice was examined. All mice were socially housed in either standard (social enrichment only) or complex enriched (social and environmental enrichment) cages for 7 weeks. Enhanced spatial memory as tested on the Barnes Maze was observed in the mice experiencing the complex enriched environment. These environmentally enriched mice demonstrated a significantly shorter latency to both find and enter the escape hole, with fewer occurrences of freezing behavior than mice in the social housing group. The combination of enrichment variables improved spatial reference memory more than the single variable in middle-aged mice.

Author Note. Victoria Koke, student, Nebraska Wesleyan University; Marilyn S. Petro, Department of Psychology, Nebraska Wesleyan University.

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* Faculty sponsor.
and length of exposure) in a comprehensive examination of environmental enrichment and spatial reference memory. Young, middle-aged, and aged mice experienced 4 weeks of enrichment in four environments: control, cognitively stimulating (toys), exercise wheels, or complex (social housing with cognitive toys and exercise wheels). Any of these forms of enrichment appeared to increase spatial reference memory for the aged mice, with the complex environment producing the greatest improvement in spatial memory in the aged and middle-aged mice, indicating an additive effect.

Yet, these conclusions are confounded by the use of exercise wheels in the complex enrichment group as physical exercise also influences memory development and retention (Van der Borght et al., 2007). Exercise wheels may provide both cognitive stimulation and physical activity for the animal. Studies such as Van der Borght et al. and Harburger et al. did not include control groups with only locked exercise wheels. It is unclear in the Harburger et al. study how the results of different levels and combinations of enrichment would compare to the performance of mice without the use of exercise wheels, as Van der Borght et al. stressed that these must be studied independently to differentiate the effect of physical exercise from the cognitive stimulation of the wheel.

The current research activity examined the effects of two specific types of enrichment, social housing and a combination of social housing and cognitively stimulating toys, on the spatial reference memory of aged mice while avoiding the exercise wheel confound. It was hypothesized that mice subjected to a complex enriched environment (cognitive stimulation toys and social housing together) would demonstrate improved spatial reference memory as evidenced by Barnes Maze performance compared to mice subjected to simple social housing. Additionally, freezing behavior (total immobility other than respiration for a period of 5 s) is considered an indicator of anxiety (Crawley, 2007) which should decrease as the animal remembers the context and the appropriate response in the Barnes Maze. Episodes of freezing were hypothesized to occur less in mice exposed to the complex enriched environment than in mice experiencing social housing only.

Method

Subjects

Twenty-four C57BL/6 female mice, 10-month-old retired breeders, were purchased from Charles River Laboratories and spent 6 months in the Psychology Department Laboratory, individually housed in standard housing. At middle-age (16 months old), the subjects were randomly divided into two equal groups: complex enrichment (CENR) and social enrichment (SENR). The CENR group experienced 6 weeks of continuous social housing with cognitively stimulating toys, while the SENR group experienced the 6 weeks in social housing only. Mice underwent experimentation in two phases. Due to time constraints, two cohorts (6 mice per condition) were exposed to their respective housing conditions and tested at separate times. One mouse from each condition had to be removed from the experiment due to injuries resulting from over-grooming by other mice in the cage. All experimental procedures were approved by the Nebraska Wesleyan University Institutional Animal Care and Use Committee.

Materials

Spatial reference memory was tested via the Barnes Maze (Med Associates ENV-562). This maze effectively measures spatial reference memory (Barnes, 1979). The Barnes Maze is a white circular table (122 cm diameter) with 40 (5 cm diameter) holes equally spaced along the outer edge and located 140 cm above the floor. An open-ended metal cylinder (7.6 x 12.7 cm) was placed in the center and served as the starting chamber. Two flood lights were centered above the maze (3000 lux) to make the table more aversive. Beneath one of the 40 holes was a black escape box which provided a dark place for the mouse to escape from the aversive bright

| TABLE 1 |
| Mean and Standard Error for Recorded Errors, Head Latency, Entrance Latency, and Freezing Behavior of Complex Enriched (CENR) and Social Enriched (SENR) Mice on the Barnes Maze |

<table>
<thead>
<tr>
<th>Environment</th>
<th>Errors</th>
<th>Head Latency</th>
<th>Entrance Latency</th>
<th>Freezing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SE</td>
<td>M</td>
<td>SE</td>
</tr>
<tr>
<td>CENR</td>
<td>4.89</td>
<td>0.5</td>
<td>32.19**</td>
<td>5.24</td>
</tr>
<tr>
<td>SENR</td>
<td>5.1</td>
<td>0.5</td>
<td>54.99**</td>
<td>5.24</td>
</tr>
</tbody>
</table>

Note. *p < .05. **p < .01.
and white table surface. The box was filled with a thin layer of bedding to provide a more comfortable and familiar environment. On three of the walls in the square room were brightly colored posters for the mice to reference as cues to locate the escape hole. The researcher wore a white lab coat throughout the duration of testing while standing in the same location in the doorway for each trial to provide a consistent fourth reference cue.

**Procedure**
Each mouse was randomly assigned an escape hole location for the duration of training. Day 1 of testing was termed *Habituation*. A standard clear plastic mouse cage was placed over the mouse and three holes, the center of which was the escape hole assigned to the mouse. The mouse was left undisturbed for 4 min, allowing it to habituate to the maze, see the reference cues on the wall, and learn that an escape box was present under a specific hole. The researcher observed the subjects at this time, making special note of any unusual behaviors or if any of the subjects entered the escape box. If the mouse had not entered the escape box by the end of the 4 min, it was gently herded into the box and allowed to remain there for 30 s.

Day 2 through day 5 of testing was termed *Acquisition* training. Each mouse was given four trials per day, with a 2 min maximum per trial. The mouse was placed in the central starting chamber for 15 s to allow the subject to orient to the surroundings. The chamber was then lifted and the researcher moved to the assigned spot in the doorway. The mouse was allowed 2 min to find and enter the escape hole. If the mouse entered the escape box before the 2 min time limit, it was immediately removed from the escape box and returned to its cage. If the 2 min limit was reached, the mouse was gently herded into the correct hole and allowed to remain in the escape box for 30 s before being returned to its cage. During each trial, four observations were recorded: the number of errors the mouse made (defined as poking the entire head into an incorrect hole), the latency to initially poke its head into the correct hole, the latency to enter the correct hole with all 4 feet in the escape box, and the frequency of freezing behavior (defined as total immobility other than respiration for 5 s). Mice were run in pairs, with one resting in its cage while the other performed a trial, and vice versa, until four consecutive days of four trials were completed.

**Results**
Data were analyzed using a 2 x 4 mixed design ANOVA to determine the effects of housing condition (CENR or SENR) and day (4 training days). Significant main
effects of enrichment conditions relative to day of testing were further analyzed using an independent samples t test. A significant decrease in the mean number of errors over the 4 days of training indicated that mice in both conditions learned the location of the escape box using the extra-maze cues, $F(3, 60) = 28.62, p < .001, \eta^2_p = .59$ (Figure 1). No significant interaction was found, $F(3,60) = 2.49, p = .07$. As seen in Table 1, mice in the complex enrichment (CENR) and social enrichment (SENR) groups did not differ significantly in the number of errors made while trying to locate the correct escape hole, $F(1, 20) = 0.09, p = .774, \eta^2_p = .05$. However, significant differences were found in the other three measures recorded. All mice decreased the time taken to locate the correct hole (Figure 2) over the 4 days of testing, $F(3, 60) = 25.22, p < .001, \eta^2_p = .56$. A main effect of enrichment condition indicated that CENR mice demonstrated a shorter latency to locate but not enter the escape hole than the SENR mice, $F(1, 20) = 9.48, p = .006, \eta^2_p = .01$. The independent sample t test (two-tailed) indicated that these differences between the CENR and SENR mice were most apparent on days 2, 3, and 4 [Day 2, $t(20) = -2.49, p = .021$; Day 3, $t(20) = -3.57, p = .002$; Day 4, $t(20) = -2.40, p = .026$. The CENR mice also demonstrated a shorter entrance latency (Figure 3) than the social enrichment mice, $F(1, 20) = 5.64, p = .028, \eta^2_p = .02$. Again, mice in both conditions demonstrated a learning of the location of the correct hole over the 4 days by significantly decreasing the time taken to find the correct hole, $F(3, 60) = 37.74, p < .001, \eta^2_p = .65$. However, the CENR mice were significantly faster to enter the escape hole on days 2 and 3 [Day 2, $t(20) = -2.27, p = .034$; Day 3, $t(20) = -2.63, p = .016$. As seen in Figure 4, all mice adapted to the maze as indicated by a decrease in episodes of freezing over the 4 days of testing, $F(2.14, 42.89) = 4.72, p = .012, \eta^2_p = .19$ (Greenhouse-Geisser correction). However, SENR mice exhibited more instances of freezing behavior during testing trials than the CENR group mice, $F(1, 20) = 5.72, p = .027, \eta^2_p = .09$. This difference was especially apparent on day 2, $t(20) = -2.28, p = .033$. This is consistent with significant differences in latency to find and latency to enter the escape hole on day 2. The lack of significant differences on days 3 and 4 signify that both groups became more familiar with the Barnes maze environment and experienced decreased amounts of stress and anxiety. While mice in both enrichment conditions eventually learned the location of the escape hole using distal cues, the mice in the complex enrichment condition adapted to the maze and learned the location faster than the social enrichment mice.
Discussion

The present study expanded on previous research (Harburger et al., 2007) to compare two specific types of environmental enrichment, social housing and a combination of social housing with cognitively stimulating toys, in middle-aged mice for an extended period of time while avoiding the possible confounding effects of the use of exercise wheels. The hypothesis that complex environmental enrichment improved spatial reference memory as measured by Barnes Maze performance over social housing alone was supported. Mice subjected to complex enrichment took less time to both find and enter the escape hole than mice that experienced only social housing. This study adds an interesting twist to the validity of enrichment and memory studies. The results suggest that different types and combinations of enrichment may provide diverse improvements in declining spatial memory of aged individuals, when the exercise wheel confound is eliminated. The complex enrichment group, housed with a combination of two enrichment variables (social housing and cognitively stimulating toys), demonstrated enhanced spatial memory over the social group, exposed to only the single enrichment variable of standard social housing. Our results are comparable to Harburger et al.’s findings indicating that social housing, as an enrichment variable alone, does not produce the same strength of spatial memory outcomes as the combination of cognitively stimulating toys with social housing.

Our research is consistent with the results of previous enrichment studies (Bennett et al., 2006; Frick & Fernandez, 2003; Frick et al., 2003; Harburger et al., 2007; Lambert et al., 2005; Van der Borght et al., 2007) and add to Harburger et al.’s conclusion that “single enrichment factors differentially improve spatial reference memory” (p. 684). Our study demonstrates that enrichment variables, and combinations thereof, do have various effects on the improvement of spatial reference memory of middle-aged mice. Future research should continue to examine all possibilities and combinations of enrichment variables to determine if there is a “best” combination, or perhaps a single variable, which produces maximum spatial memory results.

One interesting aspect in the results is the lack of significance in the number of errors made between complex and social enrichment groups. While the complex enrichment group had a shorter latency to both find and enter the correct escape hole, thus spending less time on the Barnes Maze, it is intriguing that the number of errors made in finding the correct escape hole was not significantly less than those of the social housing group. One limitation to the data collection during the Barnes Maze testing was that the numbers of errors made before and after finding the correct hole were not recorded separately. Future research should consider this when recording errors, as it is possible that differences in the number of errors before and after finding the escape hole could be another indicator of learning. However, the enriched mice spent considerably less time freezing, which indicates that they may have adapted to the maze much faster than the control mice. This quicker adaptation denotes faster learning and better recall for the complex environment enriched mice over the socially enriched mice. Yet the difference in errors between conditions made across the 4 testing days was not significant. Perhaps the enriched mice, because of their faster adaptation, spent more time exploring the Barnes Maze until they found their assigned escape hole, and the number of errors made decreased per trial day as the latency to find and enter their escape hole decreased significantly across days 2 and 3. The control mice may have spent more time freezing after making errors due to stress and anxiety because of their slower adaptation to the new environment, thus limiting the number of errors made when attempting to find and enter their assigned escape hole. The significant difference in latency to find and enter the escape hole on day 2 supports this conclusion.

Another limitation to this study may be that mice were obtained and tested in two cohort groups, with one cohort being tested in March and the other in July, and at differing times of day between the two phases, March in the morning and July in the late afternoon. It would be desirable to test the animals at consistent times of day within the same week. Although this was not feasible in the present study, future research should attempt this to eliminate any increase in variability.

An interesting application of the investigation of enrichment and its effect on memory in humans could be in the study of slowing the effects of Alzheimer’s disease. One of the first signs of the progression of Alzheimer’s is when individuals seem to forget where they are or their locations—otherwise known as the loss of spatial reference memory (Beatty, 1988). If complex enrichment, or single enrichment variables, can slow the loss of spatial memory in healthy middle-aged mice, perhaps this same factor could greatly slow the loss of spatial memory in humans suffering from the negative effects of Alzheimer’s disease. The use of environmental enrichment variables as a nonpharmaceutical way to slow the development of memory loss in both middle-aged mice and humans should be subjected to further research.

In conclusion, the results from this study support the conclusion (Harburger et al., 2007) that enrichment variables, single and in combination, have differing effects on spatial reference memory of middle-aged
mice. Mice that experienced complex enrichment demonstrated greater improvement in spatial reference memory as measured by performance on the Barnes Maze than mice subjected to social housing alone. These results suggest that the combination of social housing and cognitively stimulating toys produces more desirable spatial memory activity than simple social housing alone.

References
When encoding information into memory, people not only process and store the target information, but they also process the information surrounding the target object or event. This additional information can then later help them retrieve the target and can enhance memory across a variety of situations. Among the additional information that is encoded are cues from the context in which the target memory was formed. These context effects enhance retrieval by providing additional retrieval cues for the target memory.

Perhaps one of the most striking examples of context effects is the physical context effect. In studies of physical context effects, the actual physical location of participants can influence performance. For example, Godden and Baddeley (1975) found compelling evidence for context-dependent memory when looking at divers’ memory performance either underwater or on land. They showed that word lists learned underwater were better recalled underwater than on land, and that words learned on land were better recalled on land than underwater. Similarly, Smith, Glenberg, and Bjork (1987) showed that participants who encoded and recalled a list of paired associates in the same room and setting showed better overall recall than did participants whose encoding and recall context did not match. These results provide evidence that elements of the context become associated with the target memory and can clearly improve memory performance when these elements are available during testing.

Physical context, however, is not the only type of context that is stored with the target memory. The semantics of an object or event are also encoded. Semantic context encourages participants to focus on the meaning of a target memory which can then greatly improve memory. For example, Thompson (1972) presented word pairs such as sky blue and told partici-
 verts that they would be tested on the second word of each pair (e.g., blue). During testing, the researchers presented participants with either the critical word only (blue) or the word pair that they had originally studied (sky blue). Results showed that participants were more successful at recognizing the critical word when it was presented in the original word pair context than the single critical word context. Furthermore, McKenzie and Tiberghien (2004) found that if a word was presented in singular form during encoding, then participants were more likely to recognize it during the recognition test if the word was in singular form. These studies show that semantic context can also play an important role in enhancing memory.

Memory for the target material can also depend heavily on the context in which the target material is embedded. Better memory is seen if the target material is embedded in semantically-related material, in contrast to when the target material is presented by itself or when it is embedded in semantically-unrelated material. Jefferies, Lamber-Ralph, and Baddeley (2004) showed that participants have better memory for whole sentences than for single words. In this study, participants were presented auditorily with a series of sentences or a series of words, and then were asked to recall what they had just heard. Results showed that participants were able to recall auditory sentences more quickly and successfully than unrelated words. These results further showed the importance of context and indicated that items that had elements of context could be remembered more easily than items without context. Perhaps sentences provide meaningful context that can lead to connections in memory whereas lists of words are devoid of context and connections, and are therefore not retrieved as easily.

The importance of semantic relatedness of the target and non-target material can also be seen in a study by Green and Hummel (2006) in which participants determined whether a target object matched a label. Each object was presented with a distracter object which sometimes interacted with the object and sometimes did not. For example, a glass of water would be shown with either a pitcher (related) or a car key (unrelated). Participants were able to identify the relationship much more accurately when the distracter was semantically related to the label. Green and Hummel believe that the semantically-related label provided participants with an appropriate context that helped them recognize the relevant relationships. Therefore, when the distracter was semantically related, participants could better identify the relationship.

The studies reviewed above provide evidence that physical and semantic context can play an important role in memory. We designed the current experiment to expand these findings by investigating whether a common source, compared to a variety of sources, could also provide contextual cues that could lead to memory improvement. More specifically, this study was designed to determine whether participants would remember more movie quotes when they were from the same source (movie) or when they were from different sources (movies). Because the quotes from the same source had the same feel and mood, it is possible that participants would be able to use this semantic information to help them improve their memory.

However, another possibility also exists in this situation. Presenting a series of quotes that have the same source and therefore the same underlying semantic context could actually lead to poorer memory due to interference effects. Research (e.g., Brewer, 1988) has shown that participants are more accurate at remembering some unique event when compared to a particular event within similar events. As participants are exposed to more similar events, specific details of each event tend to be exchanged and shared across the common events, eroding memory accuracy (e.g., Reinitz, Lammers, & Cochran, 1992; Roberts & Blades, 1998). It is possible that presenting participants with a series of quotes from the same source, and therefore the same semantic context, would lead to a decrease in detail memory compared to memory for quotes from a different source that did not share semantic context. Given these two possibilities, greater memory for the same-source movie quotes than the different-sources movie quotes would provide evidence that participants were able to use the semantic relatedness and context effects to improve their memory. On the other hand, decreased memory for the same-source movie quotes condition compared to the different-sources movie quotes condition would indicate that source similarity leads to interference and erosion of memory accuracy. Based on the compelling evidence for positive context effects reviewed above, however, it was hypothesized that participants would be able to use source and therefore semantic context to improve their memory in the same-source condition. Thus, we predicted that recall of movie quotes would be greater in the same-source condition than the different movie source condition.

Method

Participants

The participants who agreed to participate in this study were 34 students at a small midwestern liberal arts college (12 first-years, 7 sophomores, 6 juniors, and 9 seniors). Participants (13 male and 21 female) were obtained from the introductory psychology pool as well as convenience sampling. The mean age of the participants was 20.2 years.
Materials
For the same-source condition, 10 quotes from the movie Anchorman (2004) were spliced together, with approximately 1 s between the quotes. For the different-sources condition, 10 quotes from different movies were spliced together, also with 1 s between the quotes. The movies that were used were Office Space (1999), Charlie and the Chocolate Factory (2005), Mr. and Mrs. Smith (2005), Shrek (2001), Scooby-Doo (2002), Rush Hour (1998), The Fast and the Furious (2001), Men in Black (1997), The Blues Brothers (1980), and The Matrix (1999). Quotes in both conditions ranged anywhere from approximately 1 s long to approximately 4 s long. Example quotes from Anchorman included “You know I don’t speak Spanish”, “I love lamp”, and “Hey everyone! Come and see how good I look!” Example quotes from other films included “I love grapes” (Charlie and the Chocolate Factory), “Let’s go for a little ride” (The Fast and the Furious), and “We’re on a mission from God” (The Blues Brothers). The two conditions were approximately the same overall length of about 1 min. Basic demographic information was also collected.

Procedure
First, consent forms were distributed and signed. After this, participants were shown the first movie condition, then asked to recall as many of the quotes as possible. Once everyone had finished, the second movie condition was shown, after which participants were again asked to recall as many of the quotes as possible. To control for possible order effects, approximately half the participants saw the same-source condition first, while others saw the different-sources condition first. After participants recalled as many quotes as they could remember from the second condition, they were debriefed.

Design and Analysis
The research used a two-group independent-samples design. We used a paired-samples t test with a repeated factor of source (same or different) to investigate participants’ memory for quotes. Random assignment was used to assign the conditions, with 15 participants seeing the same-source condition first, and 19 seeing the different-sources condition first.

Results
No order effects were found for the same-source condition first compared to the different-sources condition first (p = .50). Therefore all results are presented collapsed across order.

To determine how movie source influenced quote memorization, we analyzed participants’ recall both for overall memory and accuracy of memory. The overall memory score was created by adding up all the quotes that participants’ remembered correctly. For this particular memory measure, we considered a quote to be correct if all the major words in a quote were correctly given; words such as a or the, were not considered. We ran a paired-samples t test on the overall memory measure with a repeated factor of source (same or different). We found that participants remembered significantly more movie quotes from the same movie (M = 5.56, SD = 2.39) than from different movies (M = 4.56, SD = 1.89), t(33) = 2.33, p = .03, d = .40 (see Figure 1). These findings indicate that source and therefore semantic context can influence memory for complex stimuli such as movie quotes.

To determine whether the above improvement in the same-source condition was due to an increase in accuracy or to participants’ attempts to remember more quotes in the same-source condition than in the different-sources condition, we calculated an accuracy ratio, created by dividing the number of accurate responses by number of attempted responses. Again, a response was considered accurate if all major words (all words other than a, an, and the) were written in the exact order that the words were said in the movie quote. We ran a paired-samples t test on the accuracy ratio and showed that participants had a proportionally higher level of accuracy when recalling quotes from the same movie (M = 0.83, SD = 0.20) than when recalling quotes from different movies (M = 0.69, SD = 0.20), t(33) = 3.00, p = .005, d = .70 (see Figure 2).

Discussion
This study was designed to investigate the impact of source context on memory. For the same-source condition, we hypothesized that participants would be able to use source information, such as the mood and feel of a movie, to make semantic connections to improve
their memory compared to the different-sources condition. Overall, results showed that participants were able to remember more quotes in the same movie source condition than the different movie sources condition. These findings indicate that participants are able to use source context to make semantic connections and to improve memory. Results also showed that participants were proportionally more accurate in their recall for quotes from the same source than for quotes from different sources. The accuracy results show that similarity in source context does not lead to interference or greater confusion as suggested by Reinitz, et al. (1992) and Roberts and Blades (1998). Overall, these findings indicate that source context can improve both accuracy and overall memory.

The implications of this study are far-reaching. First, the findings indicate that participants are able to use a common source as a memory aid. Perhaps a common source alerts participants to the semantic relationship between the information presented (movie quotes, in this particular experiment.) Once participants are aware of a semantic relationship between the information, they can use the relationship to help improve memory, as seen in Green and Hummel (2006). Further studies, however, are needed to investigate this possible connection between source context and semantic relationships.

The findings of this study could also have broader implications, especially for education. If source context can be used as a memory aid, as seen in the same movie condition, then educators need to be encouraged to make more direct references to source similarity. For example, when possible, try to include more references to the same source as opposed to referencing a slew of different sources; and, when referencing different sources, be sure that those sources are related. Such references should help students understand the semantic relationships between class materials and lead to improvements in memory. Additionally, if students can organize their notes into source-related units, students might be able to take advantage of another memory aid that has been shown to improve memory, chunking. The process of chunking in memory can only occur when a person realizes there is a connection between the material presented (e.g., Carter, 1998; Miller, 1956); perhaps source context leads participants to see semantic relationships that then lead to chunking. Future research needs to be done to examine the relationship between source context and the ability to use chunking.

There are some limitations that need to be considered in this study. The fact that most participants in this study had probably seen the movie Anchorman, which was used for the same-source condition, could have influenced their abilities to recall more quotes from Anchorman. If participants had heard the quotes before, then they might have been able to remember them better because of previous exposure, not because of source similarity. However, we tried to control for this by choosing movies for the different sources condition that were equally-popular movies with college-aged adults (e.g., Charlie and the Chocolate Factory, 2005; Mr. and Mrs. Smith, 2005). In an informal post-hoc survey of 25 students who did not participate in the original study, we found that the average familiarity of the movies presented in the different sources condition was about equal to the average familiarity of the movie Anchorman. Though done in a post-hoc fashion, this gives us some confidence that familiarity was at least to some extent controlled for in the study. Perhaps a future study could try to eliminate familiarity by either asking them if they had seen them previously, or by performing a study with old movies from the 1940s and 1950s that most college-aged adults would not have seen before. If students are not familiar with the films, then familiarity would not be a factor, providing a purer measure of whether participants are able to use the feel and mood of a movie to determine context and the relationship between the quotes. Another extension of this research would be to investigate the limits of source context by giving participants movie quotes that are from a much broader source, such as animated movies. It would be interesting to investigate what type of source context participants are able to use to increase memory and what type of source context does not lead to an increase in memory. Perhaps a movie genre, such as quotes from animated movies only, would be too broad of a source and therefore would be more likely to lead to interference effects as participants tried to keep track of the different movies and their quotes.

**FIGURE 2**
Accuracy ratios for quotes recalled.
Error bars represent standard error.


**References**


Researchers have indicted exposure to media as a factor associated with maladaptive attitudes and behaviors associated with body image and evaluation (e.g., Myers & Biocca, 1992; Tiggeman, 2003; Richins, 1991). Media generally refers to forms of communication that reach a large number of individuals. In the context of this study, media refers to entertainment sources like television programs, movies, and music videos, as well as fashion and exercise-related magazines. Richins theorized that because the media advertises an idealized body image, readers or watchers of these media outlets undergo a changed standard or criterion by which to judge physical appearance. Perhaps more importantly to note is that this standard is impossible to meet, and thus, readers or watchers of media end up feeling dissatisfied with their own body image. Several researchers have found that individuals’ views of their bodies and the relationship of those views to a sense of an “ideal” body type influences their eating behaviors. Specifically, individuals who are aware of a greater gap between the perceptions of their own bodies and an ideal are more likely to develop dysfunctional eating patterns. Thompson and Heinberg (1999) reported that the internalization of the body ideal, in contrast to the degree to which recipients’ were unable to meet this ideal, was related to the severity and persistence of eating dysfunctions (also, Levine & Smolak, 2006; Thompson, 2004).

A number of researchers have begun investigating the degree of influence that the media has on self-evaluations. For example, Jones (2004; Jones, Vigfusdottir, & Lee, 2004) explored the issue of “appearance culture” in which she identified a two-step process by which individuals are exposed to and engage with the idealized body image of their culture. First, individuals are exposed to body images primarily through media and other sociocultural avenues. Secondly, “appearance conversations” occur between the individual and his or her friends or peers. These discussions contain social comparison-related statements and peer-level appearance criticism or compliments regarding one’s body.

Researchers have also attempted to identify the specific factors or aspects of media that promote shifts in and adherence to a self-perception of attractiveness. Cusumano and Thompson (1997, 2000) designed a scale to measure dimensions of media influence on body image perception called the Multidimensional

The Media, Body Evaluation, and Perceptions of Physical Attractiveness Among College-Aged Women and Men

This study assessed 302 undergraduate men and women to investigate the relationship between the media, one’s body evaluation, and self-perceptions of attractiveness. Initial predictions anticipated that the internalization of the media’s idealized body image should decrease perceptions of attractiveness. Second, participants who have a positive appearance evaluation should report positive perceptions of attractiveness. Third, those with a positive body image should report less internalization of the media. There was support for the second and third hypotheses. Positive body evaluation increases perceptions of attractiveness while media sources of the ideal body image influence low body-esteem and self-esteem.

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* Faculty sponsor
Media Influence Scale (MMIS) used in the present study. The scale identifies three dimensions: (a) the awareness that the media promotes the body ideal, (b) the perceiver’s internalization of this ideal, and (c) the perception that the media is pressuring one to adopt the ideal. Studies that included male participants have reported that preadolescent girls score higher on the MMIS and have higher body dissatisfaction than their male counterparts (Cusumano & Thompson, 1997, 2000). These results indicated that the awareness of the body ideal and subsequent internalization of the idealized body image was a significant predictor of body dysfunction for females.

Another scale that was developed to examine the media’s influence on body dissatisfaction is the Sociocultural Attitudes Towards Appearance Questionnaire (Heinberg, Thompson, & Stormer, 1995; Smolak, Levine, & Thompson, 2001). A similar scale to the MMIS, the SATAQ has been utilized to assess two relevant dimensions of the media: internalization and awareness of media’s standards on an idealized body. Smolak et al. (2001) reported that there are significant correlations between scores on the SATAQ and weight control efforts, the BMI, and body-esteem among middle-school children. Likewise, Lokken, Worthy, and Trautmann (2004) showed that awareness and the internalization of sociocultural standards of body image predicted eating disorders among college-aged women.

Other studies have shown consistent results in the relationship between these scales (i.e., media’s influence and body image disturbances, body dissatisfaction, eating disorders, low body esteem, the drive for thinness, and bulimic symptoms. For instance, Myers and Biocca (1992) reported that women’s perception of their body shape suffered dramatically after being exposed to as little as 30 minutes of television viewing that contained the media’s thin ideal. In their meta-analysis of 25 studies, Groesz, Levine, and Murnen (2002) examined subjects who were asked to view average-, plus-, and thin-sized body images for a short duration. The subjects reported a resulting negative body image perception only after viewing the thin body images, as opposed to viewing average-size or plus-size targets. This effect was particularly manifested among the female participants, especially those younger than 19 years old. Similar to Richins’ (1991) suggestion, Groesz et al. (2002) explained that the advertised thin ideal in magazines and other media outlets brings about a heightened sense of a body standard that is very difficult to achieve. Thus, females report feeling dissatisfied with themselves and their perceived inability to attain the standard. This disappointment further results in the women feeling low esteem and self-worth.

Some studies have also indicated that women who are susceptible to the media’s idealized body image tend to judge other women in similar ways (Beebe, Hombeck, Schober, Lane, & Rosa, 1996).

Some studies have attempted to identify the specific media outlet that could influence internalization and awareness of sociocultural standards of the ideal body image. Tiggesmann (2003), for example, reported that there was more media internalization (measured by the SATAQ) if the total number of magazines read and the total amount of time reading fashion magazines increased. In turn, this increased internalization of the ideal body further results in an increase in reported dissatisfaction with one’s own body. Furthermore, television watching, (operationalized as the length of time spent watching soap operas and music videos), has also been found to contribute to lower body-esteem. Sands and Wardle (2003) similarly reported that magazine reading was strongly related to the awareness factor and when the ideal was internalized awareness was related to body dissatisfaction.

Relation to self-perception of attractiveness

The association between media outlets and body image disturbances, eating disorders, and low self-worth has obvious important implications and should be examined. However, not much attention has been placed on a possible relationship between exposure to the media’s idealized body image, body dissatisfaction, and perception of attractiveness. It is sometimes assumed that when an individual suffers from body dissatisfaction, then he or she must have similarly poor self-perception of physical or sexual attractiveness. It is also assumed that the media influences perception of attractiveness because of its focus on an ideal body image.

Thus far, only a few studies have attempted to address the relationship between the media, body image, and perceptions of attractiveness. Henderson-King and Henderson-King (1997) exposed female participants to female targets who were either neutral or ideal in body image. Although their study focused on the influence of an idealized body image to self-esteem, they found that the participants who were exposed to the ideal-body-image-target and were thin reported positive perception of their sexual attractiveness. In a follow-up study, Henderson-King, Henderson-King, and Hoffman (2001) reported that when an individual considered her physical attractiveness as an important part of her self-concept, then exposure to the idealized body image polarized her weight esteem (i.e. positive or negative feelings about one’s weight gain, loss, or stability) according to how closely she did or did not come to meeting that ideal.

Therefore, the literature suggests that the media’s
idealized image and the resulting body dissatisfaction have some relation to self-perception of attractiveness. However, it is not known the extent to which media ideals influence self-perceptions of attractiveness.

The present study

The primary objective of this study was to examine the relation between the media and perceptions of one’s body and, more importantly, perceptions of one’s physical, sexual, and overall attractiveness as they pertain to body dysfunction. In addition, assessing perceptions of one’s own attractiveness includes one’s perceptions of how others (e.g., same-sex and opposite-sex peers) perceive one’s attractiveness. A person may lend equal consideration to peers’ perceptions of his or her attractiveness and to their own self-assessment. Therefore, peer assessments play a significant part of the person’s self-perception of attractiveness.

A secondary objective was to investigate the relationship among these variables in both women and men. Women’s body image is notably more affected than men’s. Although some studies suggest that the negative influence of the media on women’s body image can be measured as early as the preadolescent years (e.g., Jones et al., 2004), the present study assesses college men and women because we expect the relationships between the variables of interest to have stabilized or become stronger. It is expected that college-aged men in this study will report a relationship between the internalization and awareness of the media’s idealized body image for men, including body dissatisfaction and self-perceptions of attractiveness.

The first prediction in the study is that the internalization and awareness of the media’s idealized body image should be related to perceptions of attractiveness. This factor is expected to manifest itself such that individuals who internalize and are aware of the media’s ideal should also perceive that they are not physically, sexually, facially, or generally attractive (e.g., high scorers on the MMIS and SATAQ should report low perceptions of attractiveness). The second hypothesis is that participants who have a positive appearance evaluation (or body image) should report positive perceptions of attractiveness. Third, there should be a negative correlation between the AE subscale and the MMIS and SATAQ scales. Those who have a positive body image, as measured by the AE subscale, should report less internalization of the media’s influence on an idealized body image, as assessed by the MMIS and SATAQ. This is a result that should support the existing literature that indicates that high scorers on the MMIS and SATAQ should report low AE scores and overall body dissatisfaction as measured by the additional items about self-body evaluations.

Method

Participants

Participants were introductory psychology students who participated as part of a course requirement. There were 147 women and 155 men, with the majority of them between ages 18 to 20 years (84% for the female sample and 78% for the male sample). The sample was comprised mostly of White (43% of the women and 50% of the men) and Hispanic (35% of the women and 24% of the men) participants.

Materials

Both male and female participants filled out a questionnaire developed by the researchers that contained items assessing perceptions of their physical appearance, attractiveness, and media influences on their body image. Although the items were very similar to each other, there were some items that were phrased differently for the men than for the women. For instance, the item for the women “I believe that my same-sex friends would say that I am an attractive person” was modified to “I believe that my same-sex friends would say that other people would rate me as an attractive person” for the men. This step was done to control for any anxiety male participants might experience in the event that they perceive the (female-worded) item as suggesting that the men are homosexual.

Three scales were used in the study: the Appearance Evaluation (AE) subscale of the Multidimensional Body-Self Relations Questionnaire (Brown, Cash, & Mikulka, 1990), the Multidimensional Media Influence Scale (MMIS) for both female and male respondents (Cusumano & Thompson, 2000), and the Sociocultural Attitudes Towards Appearance questionnaire (SATAQ) for both male and female participants (Heinberg et al., 1995; Smolak et al., 2001). Additional items were created to measure self-perceptions of physical, sexual, facial, and overall attractiveness; the perception of other people’s (e.g., same-sex and opposite-sex others) perception of the respondents’ attractiveness; and additional items capturing self-evaluations of one’s body. A response scale ranging from 1 (completely disagree) to 5 (completely agree) was used to indicate each participant’s response to each item. There were also filler items included in an attempt to obfuscate the major purpose of the study, and demographic characteristics, namely sex, age, race, and college major, were assessed.

AE Subscale. For both sets of participants, seven items from the AE subscale (e.g., “I like the way I look without my clothes on”) were included in the questionnaire (Brown, Cash, & Mikulka, 1990). This subscale assesses perception toward one’s appearance, specifically measuring one’s physical body esteem or
self-image. Scores for the AE subscale are calculated by summing the answers to all items. Brown et al. (1990) reported reliability for women to be .88 and .91 at a 1-month test-retest. Higher scores on the AE subscale indicate a more positive view of one's body image.

**MMIS.** For both sets of participants, 11 items from the MMIS (e.g., “I try to look like the models in the magazines”) were included in the questionnaire (Cusumano & Thompson, 2000). As previously indicated, the MMIS is designed to measure dimensions of media influence on body image perception. These dimensions are represented in three subsets: awareness, internalization, and pressure to adopt the media’s promoted body ideal.

An example of the awareness dimension is represented by the item “I would like my body to look like the models in the magazines.” The second dimension encompassing the internalization of the body ideal is reflected in the item “Clothes look better on people who are thin.” The pressure to adopt such an ideal was represented with the items “Watching movies makes me want to diet.”

A demonstration of the gender-relevant modifications can be found in the dimension two (internalization) item. “Clothes look better on people who are thin” was phrased to read “Clothes look better on people who are muscular” for the male participants (Cusumano & Thompson, 2000).

Cusumano and Thompson (2000) reported reliability for the 3 subscales of the MMIS to range from .68 to .92 based on a male and female sample. The Awareness subscale for the male sample and the Media Pressure subscale for the female sample both yielded the alpha of .68. The Internalization subscale had the highest reliability of .92 and was based on the female sample.

**SATAQ.** For both sets of participants, 14 items from the SATAQ; (“In our society, fat people are regarded as unattractive”) were included in the questionnaire (Heinberg et al., 1995; Smolak et al., 2001). The SATAQ seeks to examine the media’s influence on body dissatisfaction by measuring two dimensions in the media: internalization (e.g., “I tend to compare my body to people in magazines and on TV”) and awareness of media’s standards on an idealized body (e.g., “It is important for people to work hard on their figures/physiques if they want to succeed in today’s culture”).

Similar to the MMIS, some items are worded to make them applicable to a respondent’s gender. For example, the female-directed item “Photographs of thin women make me wish I were thin” was phrased “Photographs of muscular men make me wish I were muscular” for the male subjects (Smolak et al., 2001).

For the SATAQ scale, Heinberg, et al. (1995) reported Cronbach’s coefficient alphas of .93 for the Internalization subscale and a .81 for the Awareness subscale based on a female sample. Smolak, et al. (2001) reported an internal consistency of .88 for the Internalization subscale, .82 for the Awareness subscale, and .90 for Overall based on a sample of girls. In addition, Smolak et al. reported an alpha of .87 for the Internalization subscale, .75 for Awareness subscale, .79 for the Muscular Look subscale, and .87 for Overall based on data from the sample of boys.

**Additional Items.** There were 12 items developed by the authors for this study about perceptions of physical, sexual, facial attractiveness, and body image (e.g., “I would rate myself as sexually attractive”). These items assessing perceptions of attractiveness are the following: “I would rate myself as physically attractive,” “I believe that my same-sex friends would say that other people would rate me as an attractive person,” “I would rate myself as sexually attractive,” “Members of the opposite-sex would rate me as physically attractive,” “Members of the opposite-sex would rate me as sexually attractive,” “I consider myself as a physically attractive person,” “I have an attractive face,” and “Other people have mentioned that I have a good-looking face.” Items that tapped into perceptions of body image are “I enjoy making myself attractive,” “I feel I have to diet to stay in shape,” “I like my body figure,” “I am not satisfied with my looks,” and “I compare my hairstyle with that of my friends.”

**Procedure.** The participants signed up through the departmental online introductory psychology experiments website. Groups of 4 to 7 same-sex participants were run at a time. After participants read and signed the consent form, the experimenter reiterated that the purpose of the study was to assess college students’ perceptions and attitudes about their physical appearance. A packet was given to each participant. In the packet was the survey, and the respondents were instructed to fill out the survey at their own pace and to do so honestly. They were also instructed that when they were finished, they were to place the filled-out questionnaire back into the packet. After all the participants were finished and all packets were collected by the experimenter, a debriefing session followed and any questions participants had were answered.

**Results.**

**Gender and measures of attractiveness, AE, MMIS, and SATAQ.** As reported in Table 1, participants’ AE scores were positively correlated with measures of self, same-sex, and opposite-sex perceptions of one’s physical attractiveness, with self- and opposite-sex perceptions of one’s sexual attractiveness, with perceptions of an attractive
face, with liking one's body, and satisfaction with one's looks. In addition, a higher AE score was correlated with a low need to diet. These results were evident in both women's and men's responses. Thus, participants who felt very positive about their overall body appearance held positive perceptions of their attractiveness and body image.

Table 1 also reports that scores on the MMIS and SATAQ were not correlated with any of the measures of physical, sexual, and facial attractiveness for both sexes. In addition, for men, MMIS and SATAQ scores were not significantly correlated with liking of one's body. These results suggest that measures of the media's ideal image and other societal influences are not related to perceptions of attractiveness. Moreover, for the men, they are not related to body liking.

However, additional results reported in Table 1 indicate that high scores in the MMIS and SATAQ were correlated with not liking one's body for women and dissatisfaction with one's looks for both men and women. Furthermore, high scores on these scales are also strongly related to the need to diet. These dependent variable measures are indicators of body image concerns. Thus, the results suggest that media and other sources of societal standards of body image strongly influence dissatisfaction about one's body and the behavioral tendency of dieting.

### Correlations between scales

Table 2 lists the correlations between the scales of appearance evaluation, MMIS, and SATAQ. The results indicate a significant negative correlation between appearance evaluation and the MMIS and SATAQ scales for both men and women. Participants who felt more positive about their appearance were less likely to be influenced by media's and other sociocultural standards of an ideal body image. The results also indicate a very strong positive relationship between the MMIS and SATAQ scales. Basically, these two scales have convergent validity. If one scores highly on the MMIS, then the resulting SATAQ score will be similarly high. That is, if participants report being aware of, internalizing, and being influenced by the media's ideal body image, then they will most likely be swayed and pressured to emulate other sociocultural sources of the ideal body image as well. This result was the case for both men and women in the study. The r values ranged from .77 to .81 with significance levels at .0001.

### Composite measures of attractiveness

In order to closely examine the gender-specific results, the data for measures of attractiveness (i.e., the items about one's physical, facial, sexual attractiveness) were subjected to a principal components factor analysis separately for male and female data. Data for the AE,

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<td>-.03</td>
<td>-.44*</td>
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<td>.35*</td>
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<td>-.11</td>
<td>-.34*</td>
<td>.32*</td>
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**Note.** AE = Appearance Evaluation Scale; MMIS = Multidimensional Media Influence Scale; and SATAQ = Sociocultural Attitudes Toward Appearance Questionnaire. Self PA = self-perception of physical attractiveness; Same-Sex PA = the participant's perception of same-sex others' perception of the subject's physical attractiveness; Opposite-Sex PA = the participant's perception of opposite-sex others' perception of the subject's physical attractiveness; Opposite-Sex SA = the respondent's perception of opposite-sex other's perception of the participant's sexual attractiveness; Self Attract Face = self-perception of sexual attractiveness; Self SA = self-perception of sexual attractiveness; Opposite-Sex SA = the respondent's perception of opposite-sex other's perception of the participant's sexual attractiveness; Self Attract Face and Other Attract Face = the self-perception of one's facial attractiveness and other people's perception of the participant's facial attractiveness, respectively; Body Figure = the liking of one's body figure; Satisfy With Looks = one's satisfaction with one's looks; and Need to Diet = the participant's perception that he/she needs to diet to stay in shape.

N = 147 for female data. N = 155 for male data.

* p < .0001. † p < .005. ‡ p < .01.
MMIS, and SATAQ were not included in the factor analysis. For women, the measures of self- and same-sex perception of one’s physical and sexual attractiveness, other-perception of physical attractiveness, self- and other-perception of facial attractiveness, liking of one’s body figure, and satisfaction with one’s looks loaded on one factor with factor loadings greater than .50 (see Table 3). For men, the variables of self- and opposite-sex perceptions of physical and sexual attractiveness, same-sex perception of physical attractiveness, self- and other-perception of facial attractiveness, liking of one’s body, and satisfaction with one’s looks also loaded on one factor with a factor loading of .50 or greater (see Table 4). These dependent measures were then summed together to create a composite score. This factor was labeled a composite measure of attractiveness respectively for men and women.

In addition, results from the factor analysis also indicated a second factor. This factor was labeled a composite measure of effort to be attractive. It consists of the measures of one’s level of enjoyment in making oneself attractive and the need to diet to stay in shape. The factor loading was greater than .50. This result was the case for female data only (see Table 3). No similar result was found for men.

As shown in Table 2, AE scores were strongly and positively correlated with the composite measure of attractiveness for both men and women. That is, the more positively people felt about their appearance, the more positive their perceptions of their attractiveness, for women, \( r(146) = .85, p < .0001 \); for men, \( r(154) = .77, p < .0001 \).

As for the composite measure of effort to be attractive, there was no correlation with AE, but it was positively related to the MMIS, \( r(146) = .57, p < .0001 \) and SATAQ, \( r(146) = .53, p < .0001 \) scores for the women only. The more the women felt pressured and influenced by media and other sociocultural standards of body image, the more they felt the need to diet, and the more they enjoyed trying to make themselves attractive.

**Discussion**

Contrary to the prediction that internalization of the media’s idealized body image would be related to perceptions of attractiveness, there was no significant relation between the MMIS and SATAQ with perceptions of attractiveness for both men and women in the study. Therefore, there was no evidence to support the first prediction. This result indicates that individuals who internalize, demonstrate awareness of, and are pressured to adopt the media’s and other sociocultural

<table>
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<tr>
<th></th>
<th>MMIS</th>
<th>SATAQ</th>
<th>Composite Measure of Attractiveness</th>
<th>Composite Measure of Effort to be Attractive</th>
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<td>-.30**</td>
<td>.85*</td>
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<td>SATAQ</td>
<td></td>
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<td>-.10</td>
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<td><strong>Men</strong></td>
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<td>SATAQ</td>
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Note. AE = Appearance Evaluation Scale; MMIS = Multidimensional Media Influence Scale, and SATAQ = Sociocultural Attitudes Toward Appearance Questionnaire. For women, the composite measure of attractiveness consists of self-perception of physical and sexual attractiveness, the perception that same-sex peers view one as physically and sexually attractive, self-perception and other perception of facial attractiveness, liking of one’s body figure, and overall satisfaction with one’s looks. For women, the composite measure of effort to be attractive consists of one’s enjoyment at making oneself attractive and the need to diet to stay in shape. For men, the composite measure of attractiveness consists of self-perception of physical and sexual attractiveness, the perception that same-sex and opposite-sex peers see the subject as physically attractive, that the opposite-sex others view one as sexually attractive, self-perception and other perception of facial attractiveness, liking of one’s body figure, and satisfaction with one’s looks. For men, there is no composite measure of effort to be attractive.

\( N = 147 \) for female data. \( N = 155 \) for male data.

\(^* p < .0001. \quad ^{**} p < .005. \quad ^{*} p < .05. \quad ^{**} p < .001.\)
standards of body ideal do not necessarily perceive that they are not physically, sexually, facially, or generally attractive. This was the case for both men and women in the study.

There was a moderate correlation supporting the second hypothesis, which postulated that participants who had positive evaluations of their body would report positive perceptions of attractiveness. Simply put, how one feels about one’s body carries over to self-perceptions about one’s attractiveness. This relationship was found among both men and women who participated in this study.

Results indicated that individuals with a negative evaluation of their body and appearance (i.e., were dissatisfied with their physical appearance) tended to be strongly influenced by the media and other sociocultural standards of the body ideal. However, a replication is called for in order to further verify this result. In addition, a negative appearance evaluation was related to not liking one’s figure, dissatisfaction with one’s looks, and the need to engage in dieting (all of which are indicators of low body-esteem).

Furthermore, results from the factor analysis suggest that the MMIS and SATAQ scales appear to be measuring the same underlying dimension of internalization and awareness of the media’s idealized body image. The scales have convergent validity. Additionally, in support of the third hypothesis, both scales were negatively associated with appearance satisfaction and positively associated with the perceived need to diet. Consequently, future research could utilize just one of these scales to assess internalization of media’s idealized body image.

Results from the current study suggest that positive body-esteem, or positive perceptions of one’s appearance, influence feelings of attractiveness. Conversely, the findings also indicate that not feeling good about oneself (i.e., negative body-esteem) is more related to pressures from, awareness, and internalization of the media’s advertised ideal body and is not associated with positive or negative self-perceptions of attractiveness. Thus, the assumption that the media influences perception of attractiveness because of its focus on an ideal body figure was not supported. It seems that one’s evaluation of one’s appearance has more influence on perceptions of attractiveness than media outlets or other sociocultural standards of an ideal body. In essence, whether a person feels good about his or her body significantly influences his or her perception of attractiveness.

A methodological improvement for the present study would involve including additional items that measure physical attractiveness, facial attractiveness, sexual attractiveness, and others’ perception of one’s attractiveness to allow for a more detailed examination of the present data. In addition, examining any possible gender differences in degree of importance allocated to aspects of physical attractiveness may help identify if that part of attractiveness is influenced by media portrayals of an ideal image. For example, if women place more importance in body as opposed to facial attractiveness, then the influence of media would only be relevant if the media source emphasizes the body rather than the face.

One possible follow-up study would be to investigate the characteristics of those who do hold positive views about their physical self in order to determine why they tend not to adopt or be pressured by societal/media standards of the ideal body. What is it about these individuals’ self-assessments and perceptions that afford them immunity from the constant visual pressures to adopt a presented standard of an ideal body image?

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<tr>
<th>Attractiveness Items</th>
<th>Factor 1</th>
<th>Factor 2</th>
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<tbody>
<tr>
<td>Self Physical Attractiveness</td>
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<tr>
<td>Same-Sex Physical Attractiveness</td>
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<tr>
<td>Self Facial Attractiveness</td>
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<td>Opposite-Sex Facial Attractiveness</td>
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<td>Like Body Figure</td>
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<td>Satisfaction With One’s Looks</td>
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<td>Need to Diet</td>
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<th>Attractiveness Items</th>
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<td>Self Physical Attractiveness</td>
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<td>Like Body Figure</td>
<td>.51</td>
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<tr>
<td>Satisfaction With One’s Looks</td>
<td>.50</td>
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Another line of inquiry would be to examine the relationship between individuals with positive self views, their physical weight, and socially-encouraged weight and how individuals with positive self views are able to avoid societal/media standards of the ideal body. The finding of a negative correlation between body image (as measured by AE scores) and internalization and awareness of the media ideal supports the existing literature (e.g., Brown, et al., 1990). Advertised images of the body ideal through media outlets and other sociocultural avenues do have a debilitating influence on one's perception of one's body image.

The most revealing result indicates the relationship between body dissatisfaction, the media, and self-perceptions of attractiveness among young men. Although these results were anticipated to be the case among female participants, as previous research has already indicated that women are more invested in their appearance than men (Smith, Thompson, Racynski, & Hilner, 1999), the discovery that men showed similar patterns of relationships between the variables needs to be further examined. Men are also influenced by their body image, the media's portrayal of the body ideal, their perception of their physical, sexual, and overall attractiveness, and body dissatisfaction.

The possibility of men undergoing similar processes as their female counterparts regarding self-perceptions of attractiveness promises to be fertile ground for future research. One may begin by inquiring why women would be influenced by these variables at a relatively earlier stage of life than the men. One possibility that has already been proposed and investigated is that while the “appearance culture” for women is rich during the adolescent years, it is not until the adult years that men are similarly influenced. Consequently, the connection between the media and self-evaluation of body image for males may only become apparent later during the college and adulthood years. Jones (2004) found that for adult males body evaluation is heightened when it is viewed as one of the vital factors in determining one's success (e.g., perception of competence or other personal traits based on one's looks at the workplace). Additional research is needed on when and under what conditions men engage in “appearance conversations” among friends and peer-related groups. Furthermore, the content of these appearance conversations in male peer groups may offer insight into the possible influence of age-related media messages (i.e., gender roles presented in television shows, entertainment magazines, movies, and music videos) with regard to male perceptions of attractiveness.

Results from the current study and studies like it should help clinicians and researchers further explore factors associated with low body esteem and self-esteem documented in some women and men who have eating disorders. These results could also assist with the exploration of external sociocultural factors that may contribute to psychological disorders that are reported to coexist with eating disorders, such as depression. Future preventative measures could then be developed within the arena of education. Although it would be difficult to control the media's portrayal of an idealized body image or impossible to isolate persons from media exposure, the next best step towards intervention would be to educate individuals about these relationships among the variables. In particular, interventions may be developed that may serve to reduce the internalization of cultural ideals. Overall, the present study offers a more detailed exploration of the role of self-understanding and literacy in terms of the media's influence on negative body and self-evaluations.

References
Myers, P. N., & Biocca, F. A. (1992). The elastic body image: The effect of television advertising and programming on body...


D

ivorce has become a common occurrence in today's society, and many divorces result from marital conflict. There has been much concern about the effects of parental divorce on children's academic performance, conduct, self-esteem, social skills, and relationships with their parents. Research has demonstrated "that children from divorced families experience lower levels of well-being across these domains than do children from intact families" (Amato & Keith, 1991, p. 26). For example, one study demonstrated that children whose parents were divorced displayed more behavior problems at school than did children whose parents were married (Pett, Wampold, Turner, & Vaughan-Cole, 1999). Compared to children living with two biological parents, children in single-parent families or step-families are also at increased risk for adjustment problems (hyperactivity, peer problems, conduct disorder, etc.; Dunn, Deater-Deckard, Pickering, & O'Connor, 1998). A lack of attachment to parents who are divorced may contribute to such problems (Dunn et al., 1998; Love, 2004). Research has suggested that a child's perceived level of attachment to his or her parents was a significant predictor of the child's well-being, and that children living in intact, biological families reported a more secure attachment to their parents than did children living with step-families (Love). This relationship between attachment and psychological well-being was found even when the researcher controlled family type (i.e., divorced vs. intact; Love).

In addition to measurable differences in behavior and attitude, people also tend to perceive children of divorced parents more negatively than children from intact families (Avila & Hoffman, 1998; Claxton-Oldfield & Voyer, 2001). These negative stereotypes seem to be prevalent in the general population (Amato, 1991). Additionally, researchers have observed such stereotyping among young children (Avila & Hoffman, 1998). Amato (1991) found that bias against children of divorce occurred regardless of the observer's conscious attitude toward such children. Thus, children whose parents are divorced must cope with the influence of an environment full of "pervasive negative expectancy" (Avila & Hoffman, p. 77), as well as the confusing and intimidating transitions involved.

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with the divorce itself. These negative expectations may further diminish a child’s level of well-being.

Despite problems attributed specifically attributed to divorce, there is evidence that it is the conflict between the parents, rather than the divorce itself, that has detrimental effects on children. In one study, “children in intact high-conflict families scored significantly lower in conduct, psychological adjustment, and self-concept” (Amato & Keith, 1991, p. 28) compared to children from intact low-conflict families. Moreover, children in low-conflict divorced families demonstrated higher levels of well-being than did children in high-conflict intact families (Amato & Keith). Additional research demonstrated that, although marital discord between a child’s parents negatively affected three separate measures of a child’s well-being, family structure (e.g., whether parents were divorced) did not have a significant influence on the child’s well-being (Vanderwater & Lansford, 1998).

Other research indicates that, individually, both divorce and discord play a key role in a child’s well-being (Amato, Loomis, & Booth, 1995; Amato & Sobolewski, 2001; Forehand, Neighbors, Devine, & Armistead, 1994; Hanson, 1999; Mechanic & Hansell, 1989; Morrison & Coiro, 1999). One study found that, though individuals who were young when their parents divorced were more apt to report a relatively low level of well-being in adulthood, growing up in an environment with a great deal of conflict is equally as detrimental as divorce (Amato & Sobolewski, 2001). Similarly, other research indicated that, although divorce is harmful to children regardless of how much the child’s parents quarreled prior to the divorce, it is even more deleterious for the parents to remain married when there is a high level of conflict between them (Amato et al., 1995; Mechanic & Hansell, 1989; Morrison & Coiro, 1999).

However, as Hanson (1999) indicated, there are more factors involved in the effects of divorce on children than marital conflict alone. For most children, the divorce of their parents results in decreased income, residential mobility, alterations in networks of friends, less contact with the nonresident parent and other relatives, and changes in relationships with resident parents. In Hanson’s study, statistical analysis revealed that when a child’s parents get divorced, parental discord accounts for approximately 15% of the effects of the divorce on well-being, indicating that conflict and divorce have independent negative consequences for a child’s well-being.

In light of conflicting evidence about the effects of divorce versus the effects of conflict on child well-being, as well as evidence for the existence of stereotypes about children of divorce, the purpose of the present research was to study observer perceptions about the well-being of children based on the observer’s knowledge of both the marital status of the children’s parents and the level of conflict between the parents. We predicted a main effect for each of these two variables; participants will perceive children whose parents are divorced as having a lower level of well-being than children whose parents are not divorced, and participants will perceive children whose parents are experiencing conflict as having a lower level of well-being than children whose parents are not experiencing conflict.

Furthermore, based on the opinions we had heard our peers express in the past, we predicted that participants would find conflict in an intact family to be more unexpected, and thus, we hypothesized an interaction such that the level of conflict will have a greater impact on perceived well-being of children in intact families than for children of divorced parents.

Method

Participants

Informed consent was obtained from 31 participants, 4 men and 27 women, ranging from 19 to 22 years of age. Participants were students taking social sciences courses at a southern Christian university. Professors for these courses offered extra credit to students for participating in the experiment; to comply with American Psychological Association ethical guidelines, the professors also provided students with alternative opportunities to earn extra credit. Therefore, participants were self-selected.

Materials

Each participant received a packet of information that contained an informed consent form, instructions, and one of four possible descriptions of a couple with two children: (a) the couple’s marriage is intact and there currently is no conflict in their relationship, (b) the couple’s marriage is intact and there currently is conflict in their present relationship, (c) the couple is divorced and there currently is no conflict in their present relationship, and (d) the couple is divorced and there currently is conflict in their present relationship. Therefore, these descriptions involved the manipulation of two independent variables (IVs): the marital status of the couple, and the presence or absence of conflict. To prevent extraneous variables from influencing the participants’ evaluation of the children’s well-being, we developed scenarios with as many control variables as possible; that is, in order to isolate the two independent variables—marital status and marital conflict—an effort was made to create a marital couple with no other variables that might be perceived as affecting family dynamics. In each of the scenarios, the couples were married for the same
length of time, the couples were the same age, and the children were the same age. Also, neither spouse received blame in the situations in which there were conflicts or divorce.

In addition to the scenario, the packet contained four questions and a post-hoc questionnaire. The four questions included the dependent variable target question ("Evaluate the psychological well-being of the children in this situation on the following scale..."), and three filler questions ("How well do you think you could remember the details from this scenario if asked later on?," "How would you rate the quality of Peter and Barbara's relationship?," and "How would you rate the quality of Peter and Barbara as parents?"). Participants responded to these questions using a Likert scale, from 1 (very poor) to 5 (very good). Responses to the post-hoc questionnaire provided participants’ demographic information, family history, political views, and religious views. The purpose of this questionnaire was to aid experimenters in detecting any possible biases the participants may have had.

Procedure
As the participants entered the classroom that served as the experiment site, they chose their own seat. After all participants were seated, we explained that the purpose of the experiment was to examine family relationships. Then, the experimental packets were distributed to participants in groups of four such that, the first person in the row received scenario one, the second person in the row received scenario two, the third person in the row received scenario three, the first person in the next row received scenario four, the second person in that row received scenario one, and so on. They were asked to return the packet to the experimenters once they had completed it and to remain in the room until all of the participants were finished. At that time, we debriefed the participants and gave them the opportunity to ask questions.

Results
To test hypotheses regarding public perceptions of children’s psychological well-being, we utilized a 2 x 2 (marital status x parental conflict level) ANOVA. As expected, there was a significant interaction between the two IVs. The level of parental conflict had a significantly greater impact on the perceived well-being of the children in intact families than those in divorced families, F(1, 27) = 5.06, p = .03, η^2 = .16. As shown in Figure 1, the perceived well-being of the children was highest when the parents were married and experiencing no conflict. However, when the parents were divorced, differences in parental conflict had no significant effect on perceptions of children's well-being.

Post-hoc analyses using a Tukey HSD test (HSD = 1.03 at α = .05) indicated that the perceived well-being of children whose families were intact and whose parents had no conflict (M = 4.38, SD = .74) was significantly different from that of children in the other three conditions. There were no significant differences between the perceptions of children from intact families with a high level of parental conflict (M = 2.50, SD = .76), children from divorced families with no parental conflict (M = 3.29, SD = .76), and children from divorced families with a high degree of parental conflict (M = 2.62, SD = .74).

Also, as expected, children’s well-being was perceived as being significantly lower when parental conflict was present than when it was absent, F(1, 27) = 22.09, p < .01, η^2 = .45 (see Figure 2). Although there was a significant main effect for level of parental conflict, there was no significant difference in children’s perceived well-being based on parental marital status, F(1, 27) = 3.19, p = .09, η^2 = .11. However, with p = .09, there was marginal significance, and these differences are illustrated in Figure 3.

Although the target question (i.e., primary dependent variable) concerned the perceived quality of the children’s well-being, we also included filler questions in the survey to create a mild deception regarding the purpose of the experiment. We analyzed these questions to determine how participants viewed the marriage itself, as well as the couple’s parenting skills.

A two-way MANOVA using these filler questions indicated that marital status and level of conflict had significant effects on the perceived quality of Peter and
Barbara’s relationship. Marital status had a significantly greater effect on the perceived relationship quality when conflict was absent, $F(1, 27) = 10.16$, $p = .004$, $\eta^2 = .27$; that is, participants perceived the relationship quality to be the highest when there was no conflict and Peter and Barbara were married. Additionally, participants perceived the quality of Peter and Barbara’s relationship more favorably when they were married than when they were divorced, $F(1, 27) = 14.36$, $p = .001$, $\eta^2 = .35$, and when conflict was absent rather than present, $F(1, 27) = 127.31$, $p < .01$, $\eta^2 = .83$.

The same two-way MANOVA also revealed that marital status and level of conflict had significant effects on the perceived quality of Peter and Barbara as parents. Participants perceived their quality as parents to be significantly higher when they were married than when they were divorced, $F(1, 27) = 7.62$, $p = .01$, $\eta^2 = .22$, and when they were experiencing no conflict, $F(1, 27) = 23.68$, $p < .01$, $\eta^2 = .47$. There was no significant interaction between marital status and level of conflict on the perceived quality of Peter and Barbara as parents, $F(1, 27) = 3.30$, $p = .08$, $\eta^2 = .27$.

In light of findings from the filler questions, we used Pearson correlations to analyze the strength of the relation between perceived child well-being and the quality of the parents’ relationship, as well as the strength of the relation between perceived child well-being and the quality of the couple’s parenting skills. Firstly there was a positive correlation between the perceived well-being of the children and the perceived quality of the Peter and Barbara’s relationship, $r(29) = .72$, $p = .01$. There was also a significant positive correlation between the perceived well-being of the children and the perceived quality of Peter and Barbara as parents, $r(29) = .65$, $p = .01$.

**Discussion**

We had predicted that participants would perceive children whose parents are divorced as having a lower level of well-being than children whose parents are not divorced, that participants would perceive children whose parents are experiencing conflict as having a lower level of well-being than children whose parents are not experiencing conflict, and that the level of conflict would have a greater impact on perceived well-being of children in intact families than for children of divorced parents. Findings were consistent with the latter two, but not the first hypothesis, that is, parental marital status alone did not have a significant effect on the perceived well-being of children in the family.

There was a significant interaction such that the children’s perceived well-being was more strongly influenced by the level of parental conflict when their parents were married than when they were divorced.
The condition in which the children’s parents were married and experiencing no conflict caused the children to have the highest degree of perceived well-being relative to the other three conditions. There was also a significant effect for marital conflict. Regardless of parental marital status, participants perceived the children as having a higher level of well-being when their parents were not experiencing conflict than when their parents were experiencing conflict. Interestingly enough, and despite stereotypes regarding children of divorce (Amato, 1991; Avila & Hoffman, 1998; Claxton-Oldfield & Voyer, 2001), parental marital status alone had no significant effect on the perceived level of children’s well-being.

The interaction and the main effect relative to marital conflict indicate that perceptions of a sample of college students are consistent with prior studies regarding the actual situation for children, that is, parental conflict has more harmful effects on children than does divorce (Amato et al., 1995; Mechanic & Hansell, 1989; Morrison & Coiro, 1999). Amato and Keith (1991) found that children in low-conflict divorced families demonstrated higher levels of well-being than did children in high-conflict intact families. Additionally, the fact that participants perceived children whose parents were divorced and experiencing conflict as having a similar level of well-being as those whose parents were divorced and experiencing no conflict is congruent with research indicating that conflict accounts for a small proportion of the effects of divorce on the psychological well-being of children (Hanson, 1999).

Other factors resulting from divorce may also influence child well-being, such as reduced income, modifications in social networks, and changes in relationships with resident and nonresident parents (Hanson, 1999). But this is not reflected in this research, in that the perceived well-being of children with divorced parents was not significantly different than that of children with married parents. However, there was marginal significance favoring intact versus divorced families in the perceived well-being of children in these two groups. Previous research in this field has found that children of divorce do have lower psychological well-being than do children of intact families (Dunn et al., 1998; Pett et al., 1999), and that people tend to have negative stereotypes about children of divorce (Amato, 1991; Avila & Hoffman, 1998; Claxton-Oldfield & Voyer, 2001). Based on marginally significant differences in perception in this study, it is possible that, as divorce has become more common, society has become more accepting of this alternative and is thus less likely to hold biases against children of divorce. Furthermore, participants may have felt that it is wrong to be biased against children of divorce, so they may have answered in a way they thought was “politically correct” rather than basing their answers on their personal opinions.

It would be useful to do further research to investigate the perceived and actual well-being of children who experience parental conflict firsthand versus those whose parents conceal their conflict from them. Parents may attempt to shelter their children from their marital discord, and these children may not be fully aware of the conflict between their parents. However, it is possible that there may be a high level of tension between the parents as a result of the conflict, and the children may be able to sense this tension. In that case, the children may inform others about conflict in the home, or the children’s peers may also notice the conflict when they visit the children’s home. Because of the lower perceived well-being of such children, parents may be hesitant to let their own children visit the homes of these families or associate with children who live in such a setting. Parents may be concerned that their child will also be negatively influenced by the discord, or that their child will learn negative attitudes and behaviors from children who are not as well-adjusted as their own. This type of ostracizing may further impair the well-being of children in homes where there is parental conflict.

The relation between one’s perception of the effects of conflict on child well-being and their behavior as a parent and spouse may provide another opportunity for further research. For example, a long-term study of participants from the present study could reveal a correlation between their perception that conflict has harmful effects on children and the level of actual marital conflict, once they are married and have children. Parents who perceive parental conflict as harmful to their children may also be more hesitant to allow their children to visit the homes of playmates whose parents are known to have a highly conflictual relationship. The influence of parents’ perceptions about conflict on the various decisions they make and the actions they take in raising their children may be more significant than the perceptions of young unmarried adults.

Due to the limitations of this study, additional research could also investigate some of the areas that were not fully examined. For example, the scenarios in this study were unique and untested for content validity. Subsequent research would be well served by gathering data about the credibility of such scenarios. If young people assume a naïve and simplistic link between divorce and marital conflict, it is possible that college-age participants found the scenario in which the couple was divorced and experiencing no conflict to be implausible. This would explain the fact that, in this study, parental discord had less of an impact on perceived well-being of children when their par-
ents were divorced. Also, we did not address ethnic/cultural issues, which could play a large role on one’s perceptions (e.g., some ethnicities more frequently have single parents than others). Furthermore, the small sample size greatly limits statistical power. With a greater sample size, it is possible that there could have been a significant difference in children’s perceived well-being based on parental marital status. Additional limiting factors were the lack of male participants in the study, the lack of variation in age, and the fact that the sampling of participants was from a Christian college. Thus, it is impossible to determine whether men have the same perceptions as women, whether different age groups would have similar perceptions of these issues, and whether the views of the general population would differ from those of students at a Christian institution.

The finding that marital status and level of conflict had significant effects on the perceived quality of Peter and Barbara’s relationship as well as their perceived quality as parents was also of interest, as these were only intended to create a deception to protect against demand characteristics. However, these effects provided a manipulation check of sorts. Because the manipulation of the marital status and the level of conflict (the only two factors that were not held constant) in the scenario was sufficiently sensitive to have significant effects on responses to the filler questions, one can infer the IVs were also sensitive enough to influence the target dependent variable.

Although we anticipated the strong correlation between Peter and Barbara’s perceived quality as parents and the perceived well-being of their children, the even stronger correlation between the perceived quality of Peter and Barbara’s relationship and the perceived well-being of their children is remarkable. The scenarios lacked a discussion of the quality of the relationship between the parents and their children, yet participants may have assumed that parents who had a poor relationship with one another would be likely to have a poor relationship with others members of the family, including the children. Therefore, participants’ rating of the children’s well-being could have been influenced by the perceived quality of the children’s relationship with their parents, which may have been inferred by rating the quality of the parents’ relationship. If this is the case, the fact that the scenarios failed to include information indicating the strength of the relationship between the children and their parents could be confounding. It would be beneficial to further investigate this correlation, between the perceived quality of the parents’ relationship and the perceived well-being of children, in an effort to explain it and perhaps, establish a causal link.

The results of this study indicate that participants’ perceptions were consistent with previous research indicating that parental conflict is more harmful to children than divorce itself. However, they are not in agreement with studies that indicate a stereotype against children of divorce. Subsequent research should explore the relation between the perceived and actual well-being of children in situations similar to the ones used in this study, as well as the relation between the perceptions of child well-being held by idealistic young adults versus more realistic married adults with children. Such research would be beneficial in providing useful insight about the evolution people’s perspectives regarding family dynamics.

References
Research Awards
Regional Research Awards
All Psi Chi members (undergraduate and graduate) are eligible to submit their research for the Regional Research Awards. Cash awards of $300 each are presented to students submitting the best research papers to Psi Chi sessions at regional conventions. The number of awards in each region varies based on the size of the region; a total of 78 awards of $300 each are available. 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.

Society Annual National Convention Research Awards | Dec 1
All Psi Chi members (undergraduate and graduate) are eligible to submit their research for the Society Annual Convention Research Awards. Cash awards of $200 for undergraduates and $300 for graduates are presented to students submitting the best research for Psi Chi sessions at the APA and APS national conventions. Up to 16 awards are given: 8 for the APA Convention and 8 for the APS Convention. Award monies are distributed at the conventions following the presentations.

Bandura Award | Feb 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 Psi Chi/APS 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. In addition, the abstract of the winning paper, as well as a photograph and brief biography of the winner, is published in EponPsi Chi. This award is presented during the APS opening ceremony at the APS National Convention.

Newman Award | Feb 1
All psychology graduate students are eligible to submit their research for the APA/Psi Chi Society Annual Edwin B. Newman Graduate Research Award. The winner receives the following: (1) travel expenses to attend the APA/Psi Chi National 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. In addition, the abstract of the winning paper, as well as a photograph and brief biography of the winner, are published in EponPsi Chi. This award is presented during the APA/APF Awards ceremony at the APA/Psi Chi Society Annual Convention in August.

Allyn & Bacon Awards | May 1
The Psi Chi/Allyn & Bacon Psychology Awards, cosponsored by Allyn & Bacon Publishers, are open to all undergraduate Psi Chi members and are awarded to those who submit the best overall empirical research papers. The awards are $1,000 for first place, $650 for second place, and $350 for third place. The abstracts of the winning papers, as well as photographs and brief biographies of the top three winners, are published in EponPsi Chi.

Guilford Awards | May 1
All Psi Chi undergraduate members are eligible to submit their research for the Psi Chi. P. Guilford Undergraduate Research Awards. Cash awards are $1,000 for first place, $650 for second place, and $350 for third place. The abstracts of the winning papers, as well as photographs and brief biographies of the top three winners, are published in EponPsi Chi.

Research Grants
Hunt Research Grants | Oct 1
All Psi Chi student and faculty members are eligible to apply for a Thelma Hunt Research Grant. Up to three grants of up to $3,000 each are presented annually to enable members to complete empirical research that addresses a question directly related to Psi Chi. Unlike other national Psi Chi award/grant programs, the Hunt Grants focus on research directly related to the mission of Psi Chi.

SuperLab Research Grants | Oct 1
All undergraduate and graduate Psi Chi members are eligible to apply for these research grants. The purpose of this program is to provide annual grants to aid one undergraduate and one graduate student in conducting computer-based research. Grant winners receive a copy of SuperLab experimental lab software and a response paid 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.

Graduate Research Grants | Nov 1 & Feb 1
All graduate Psi Chi members are eligible to apply for these graduate research grants. The purpose of this program is to provide funds for members to defray the costs of conducting a research project. Applicants may request up to $1,500 for each project. A total of $10,000 has been allotted for this student grant program.

Undergraduate Research Grants | Nov 1 & Feb 1
All undergraduate Psi Chi members are eligible to apply for these undergraduate research grants. The purpose of this program is to provide funds for members to defray the cost of conducting a research project. Applicants may request up to $1,500 for each project. A total of $45,000 has been allotted for this student grant program.

APA Science Directorate Internship & Relocation Grant | Jan 15
All undergraduate and graduate Psi Chi members or students accepted asAPA NCAC interns are eligible to apply for this internship grant. The purpose of this program is to provide annual grants to aid two Psi Chi members in conducting research at the FBI NCAC. Two grants up to $7,000 will be awarded annually for the 14-week unpaid position.

FBI NCAC Internship Grants | Feb 16 & June 1
All undergraduate and graduate Psi Chi members who are accepted as FBI NCAC interns are eligible to apply for this internship grant. The purpose of this program is to provide annual grants to aid two Psi Chi members in conducting research at the FBI NCAC. Two grants up to $7,000 will be awarded annually for the 14-week unpaid position.

APS 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 the program is to allow students to conduct research during the summer with a faculty sponsor who is a member of APS. This allows the student to partner with a faculty mentor who shares the same research interests and may work at a different institution than the student attends. Psi Chi awards six $5,000 grants (a stipend of $3,500 to the student plus $1,500 to the faculty sponsor).

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 to conduct summer research at an academic institution. 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). Two grants will be awarded annually within each of Psi Chi’s six regions, for a total of 12 grants. The maximum amount of each grant will be $2,000.

Chapter and Advisor Awards
Denmark Award | Dec 1
The Psi Chi/Florence L. Denmark National 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.

Regional Chapter Awards | Dec 1
The Psi Chi Regional Chapter Awards provide annual recognition for up to two chapters in each region that best achieve 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 Adv Awards | Dec 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.

Cousins Award | Feb 1
The Psi Chi/Ruth Hubbard Cousins National 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.

Website Awards | Feb 1
These awards are presented annually to three chapters with websites that are imaginative, aesthetic, and useful, and that advance or support Psi Chi’s purpose. Winning chapters will receive awards of $200 each.

Kay Wilson Leadership Award | April 1
The Psi Chi 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 officer receives: (1) a $500 cash award, (2) travel expenses for one 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.

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.