

ESTABLISHING EVIDENCE FOR THE VALIDITY FOR A MEASURE OF  
IDEALIZATION OF ADOLESCENT PREGNANCY AND PARENTHOOD

A thesis presented to the faculty of the Graduate School of  
Western Carolina University in partial fulfillment of the  
Requirements for the degree of Specialist in School Psychology

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March 2014

## ACKNOWLEDGEMENTS

I would like to thank my thesis committee for their assistance, guidance, and encouragement. I would particularly like to thank Dr. Gordon for his support, Mr. Scales for the hours of instruction and help with the statistical analyses required for this thesis, and Dr. Boan-Lenzo for requiring me to think deeply and be the best writer I can be.

I would also like to thank my husband and children for giving me the time I have needed to complete this research. This thesis would not have been possible without their generosity and patience.

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## ABSTRACT

### EXTENSION OF THE VALIDATED AGE RANGE FOR A MEASURE OF IDEALIZATION OF ADOLESCENT PREGNANCY AND PARENTHOOD

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In the last several years, the long-held opinion that adolescent pregnancy was generally accidental has been challenged by findings that a large number of teens may want to become pregnant or may be ambivalent about becoming pregnant. Research further indicates that pregnancy ambivalence and pregnancy desire have similar outcomes in terms of pregnancy and parenting at a young age.

One line of research posits that overly positive opinions about adolescent pregnancy and adolescent parenting may explain at least part of the pregnancy desire and ambivalence among adolescents. To that end, Condon, Donovan, and Corkindale (2000) developed and validated the Pregnancy and Parenthood Scale (PPS) in Australia for a population of high school students.

The current study finds that for a population of public university students in the Southeastern United States, the PPS shows moderately strong internal consistency and moderate evidence of validity. Additionally, mean responses to some scale items vary by sex, religious affiliation, and age.

## INTRODUCTION

The rate of teenage pregnancy peaked in the 1950s (Boonstra, 2002). At that time, most teenage mothers were married. Although the percentage of babies born to teens was higher than now, teenage motherhood was not considered to be a social problem until the 1960s and received relatively little notice until the 1970s (Furstenberg, Jr., Brooks-Gunn, & Chase-Lansdale, 1989). As women began marrying later, and society became more accepting of teens parenting their own children, concerns about teenage pregnancy became less an issue of mothers who married at a young age, and more an issue of single parenthood and very young parenthood (Frisco, 2008).

Early research on teenage pregnancy focused on describing the populations involved in adolescent pregnancy and the negative outcomes associated with pregnancy during adolescence (Herrman & Nandakumar, 2012; Harris & Allgood, 2009; Strunk, 2008). Researchers made the case that society should proactively seek a reduction in adolescent pregnancy in order to reduce the associated negative outcomes. Governmental agencies and private organizations began to develop goals and programs aimed at reducing teen pregnancy and the negative outcomes associated with it (Solomon-Fears, 2011; Heavey, Moysich, Hyland, Druschel, and Sill, 2008; Hao & Cherlin, 2004; Ahluwalia, Johnson, Rogers, Melvin, & PRAMS Working Group, 1999; Bearman, Jones, & Udry, 1997).

Later research focused on how to help teens prevent pregnancy and most of the research was based on the idea that virtually all teenage pregnancies were accidental (Zabin, Astone, & Emerson, 1993). The efficacy of sex education, the benefits of making birth control and birth control information available, and the worth of abstinence programs in preventing accidental pregnancy were prevalent themes in research (Coleman, 2007; Barnett, 2006; Barnett & Hurst, 2003).

More current research posits that a sizeable percentage of adolescent pregnancies are either planned or at least were not actively avoided (Herrman & Nandakumar, 2012; Unger,

Molina, & Teran, 2000). In fact, in some cases, research suggests that choosing pregnancy is a valid choice for adolescents who have few other realistic options, and that age *per se* is not a particularly strong risk factor. In other words, having babies at younger versus older ages will not make substantial differences in their lives (Merrick, 1995). Researchers are now focusing on identifying protective and risk factors for adolescent pregnancy (Davies, et al., 2003). Teens are no longer seen as a homogenous group that needs a singular, best approach in the campaign to reduce adolescent pregnancy. In the new way of thinking teens are divided into age groups (early, mid, and late adolescence), along developmental dimensions, and into groups based on cultural factors, family factors, and community resources (Driscoll, Sugland, Manlove, & Papillo, 2005; Kirby, 2002; Gordon, 1996).

In order to create early pregnancy prevention programs that are effective and to be able to evaluate them, it is important to have valid instruments that assess the attitudes and beliefs of target populations, including those who successfully navigate adolescence without pregnancy and go on to pursue educational, vocational, and personal objectives. The current research seeks to determine the extent to which one such instrument, The Pregnancy and Parenting Scale (Condon, Donovan, & Corkindale, 2000) is valid for a population of college students aged 18 to 22.

## LITERATURE REVIEW

Teen pregnancy costs American taxpayers \$9.1 billion per year – and this estimate is considered to be conservative (Hoffman, 2006). In 2002, the costs of two-thirds of adolescent pregnancies were paid with governmental funding (Heavey, Moysich, Hyland, Druschel, & Sill, 2008). More than 700,000 teens become pregnant and 400,000 teens give birth each year (Centers for Disease Control and Prevention, 2008). Although pregnancy rates have been dropping in recent years, American teens still become pregnant at a much higher rate than in other industrialized nations (Hoffman, 2006). Teen pregnancy rates in the U.S. are approximately one and a half times as high as in the U.K. and eleven times higher than in The Netherlands (Solomon-Fears, 2011). Since the number of teens is currently increasing, even if the percentage of adolescent pregnancies remains the same, the absolute number of adolescent pregnancies will actually rise (Heavey, Moysich, Hyland, Druschel, & Sill, 2008).

Despite progress in reducing the number of teenage pregnancies, much of the information about teenage sexual behavior remains alarming. In one national survey, nearly one-third of high school freshmen reported having had sexual intercourse. By their senior year, nearly two-thirds of high school students reported having coitus. Half of all females report having intercourse by 17.3 years of age, and half of all males report having intercourse by 16.75 years of age (Harris & Allgood, 2009). Most American teenagers have had sexual intercourse by the end of high school (Meier, 2003) and 4 out of every 108 females will become pregnant before age 20 (Harris & Allgood, 2009).

### **Health Issues Associated with Adolescent Pregnancy**

Adolescent pregnancies are more likely to involve a number of medical problems including low birth weight, pre-term deliveries, neonatal mortality, and low Apgar scores at five minutes (Xi-Kuan, Wen, Fleming, Demissie, Rhoads, & Walker, 2007). Low birth weight babies are twice as common for adolescent mothers (16 and younger) compared to babies of adult

mothers aged 20 to 25 (Reis, 1988). Low birth weight is related to infant mortality and other health issues (Strunk, 2008). Second children born to teens are at an even higher risk of low birth weight, particularly if the births are separated by 18 months or less (Partington, Steber, Blair, & Cisler, 2009).

The neonatal death rate for babies of adolescent mothers is nearly three times as high as for babies of adult mothers (Klein and Committee on Adolescence, 2005). While maternal mortality rates during pregnancy are relatively low in the U.S., the rate is twice as high for adolescent mothers as for adult mothers. The rate of preterm birth is more than double for babies of adolescent mothers (17 and younger) compared to babies of adult mothers.

Even when infants are born healthy to adolescents aged 15 and younger, they are still at a higher risk of neonatal death. From their 2002 study, Phipps, Blume, and Demonner found that healthy babies born to 15-year-olds were four times more likely to die compared to healthy babies born to mothers aged 23 to 29. Once adjustments were made for race, ethnicity, prenatal care, and marital status, healthy babies of teens were still three times more likely to die as infants compared to healthy babies of the older mothers.

### **Outcomes Associated with Adolescent Parenthood**

**Education and poverty.** For teen parents, associated negative outcomes include lower levels of education and higher levels of poverty (Unger, Molina, & Teran, 2000; Oxford & Spieker, 2006). Over 60% - and perhaps as many as 70% - of adolescent mothers drop out of high school (Harris & Allgood, 2009; Swedish, Rothenberg, Fuchs, & Rosenberg, 2010). Not finishing high school is associated with a dramatic increase in the chances that a teen mother will raise her child in poverty (Strunk, 2008). Even if an adolescent mother completes high school, she is less likely to seek further education (Swedish, Rothenberg, Fuchs, & Rosenberg, 2010; Oxford & Spieker, 2006). Adolescent mothers face reduced employment opportunities and attain lower educational levels when compared to adult mothers (Brooks-Gunn & Chase-Lansdale, 1995).

**Social life and relationships.** Pregnancy often has a negative impact on teens' social lives, including their relationships with their friends and romantic partners. Adolescent parents may experience conflicts over jealousy, money, parenting styles, and childcare (Herrman & Nandakumar, 2012; Oxford & Spieker, 2006, Unger, Molina, & Teran, 2000). Because adolescent parents are often unable to pay for childcare, they remain dependent on family and friends for assistance (Brooks-Gunn & Chase-Lansdale, 1995). For those that marry, marital instability is another negative outcome associated with adolescent pregnancy (Furstenberg, Brooks-Gunn, & Chase-Lansdale, 1989).

### **Outcomes Associated With Being the Child of an Adolescent Parent**

Studies conducted across disciplines have shown that parenting behaviors affect the child's general well-being (Shapiro, 2003). Parenting affects the child's social, emotional, and cognitive development. It also has a direct impact on the quality of the parent-child relationship itself. Parenting can also affect the physical development of a child. In general, adolescent parenting behavior is different than the parenting behavior of older mothers, even after accounting for marital status, educational background, and socioeconomic factors.

**Cognitive and educational outcomes.** For more than 30 years research has shown that children of adolescent mothers score lower on cognitive assessments and tests of academic achievement than children of young adult mothers (Hoff, 2006; Oxford & Spieker, 2006). The percentage of children of adolescent parents identified with academic delays increases as the children age. That is, the gap between the development of children of adolescent parents and other children widens as the children age (Brooks-Gunn & Chase-Lansdale, 1995). Children of teen parents are more likely to repeat a grade and not graduate from high school than children of older parents (Swedish, Rothenberg, Fuchs, & Rosenberg, 2010; Oxford & Spieker, 2006).

In a longitudinal study by Oxford and Spieker (2006), a sample of 154 children born to adolescent mothers of various races was studied. Their results suggest that children raised by mothers with low verbal ability in a home environment with poor linguistic quality had low

language scores. If the mother's own verbal ability was stronger, the effects of the environment were mitigated. Early language performance is a predictor of later academic success for children born to adolescent mothers.

**Social and emotional outcomes.** Children of adolescents are more likely to be placed in foster care and experience abuse and neglect than children of older parents (Swedish, Rothenberg, Fuchs, & Rosenberg, 2010). If their mother drops out of high school, children of teens are 9 times more likely to live in poverty compared to other children whose mother does not drop out of school. Daughters of teens are 22% more likely to become teen mothers themselves than daughters of mothers aged 20 or older. Sons of teens are 13% more likely to have legal problems and to be incarcerated than sons of mothers who were twenty or older at the time of their births (Harris & Allgood, 2009).

### **Risk and Resilience Factors for Adolescent Pregnancy and Parenthood**

**Demographics.** Teenage pregnancy may reflect community norms for some young women (Herrman & Nandakumar, 2012). Researchers have determined that adolescents from disadvantaged neighborhoods have higher rates of pregnancy than teens from more advantaged areas. Adolescents tend to mirror the childbearing patterns modeled in their neighborhoods. In communities with more never-married mothers who are heads of households, teens are more likely to become never-married mothers who independently raise their children. Also, Black adolescents who live in segregated neighborhoods have higher premarital pregnancy rates than those from integrated neighborhoods (Driscoll, Sugland, Manlove, & Papillo, 2005). While it is difficult to separate the effects of poverty from race, it is theorized that poverty itself may harm teen coping ability, lower self-esteem, and encourage sexual relationships among teens; all of these factors may then increase adolescent pregnancy rates (Heavey, Moysich, Hyland, Druschel, & Sill, 2008). Disorganization and dysfunction in the environments in which teens live are also associated with increased risk of teen pregnancy (Kirby, 2002).

In an effort to separate the effects of maternal age from family background on children born to young mothers, Lopez Turley (2003) analyzed data from The National Longitudinal Study of Youth (NLSY). This survey collected data from participants who were between the ages of 14 and 22 in 1979. The study found that the nieces and nephews of young mothers, who were not born to young mothers themselves, were disadvantaged similarly to their own children. That is, they found no significant differences in the children born to young mothers compared to the children both to the older, but related mothers. They found that maternal age for subsequent children was not a predictor of test scores, but that the mother's age of her first child was a predictor for lower test scores in subsequent children (Lopez Turley, 2003).

Several other demographic factors are also related to adolescent pregnancy. Adolescents from two-parent households are more likely to delay sexual intercourse (Driscoll, Sugland, Manlove, & Papillo, 2005). Adolescents with higher GPAs are more likely to delay sexual intercourse. Finally, higher parental education, especially the education level of the teen's mother, is associated with lower pregnancy rates in adolescents.

**Pregnancy desire and ambivalence.** Both positive and ambivalent attitudes about pregnancy and parenthood predict higher rates of adolescent pregnancy. Studies have found positive or ambivalent attitudes toward pregnancy to be between 24% and 64% in studied populations of adolescents (Sipsma, Ickovics, Lewis, Ethier, & Kershaw, 2011). In a study by Jaccard, Dodge, and Dittus (2003), approximately 30% of the 350 adolescent females showed ambivalence toward becoming pregnant. The researchers theorized that adolescents who have positive attitudes toward adolescent pregnancy and parenthood may intentionally become pregnant in order to gain the perceived benefits. Additionally, research suggests that behaviors for those who desire pregnancy are not substantially different from the behaviors of those who are ambivalent about pregnancy (Sipsma, Ickovics, Lewis, Ethier, & Kershaw, 2011). Being ambivalent about pregnancy and parenthood predicts lower use of more effective contraceptives. Adolescents who do not perceive parenting as an arduous task may not practice effective birth

control methods (Herrman & Waterhouse, 2010). Further, a desire to remain non-pregnant must be both strong and consistent to predict the use of effective contraception (Sheeder, Teal, Crane, & Stevens-Simon, 2010).

A longitudinal study by Sipsma, Ickovics, Lewis, Ethier, and Kershaw (2011) followed 208 young women aged 14 to 19 for 18 months. These teens were sexually active but never pregnant. Twenty-four percent of the participants expressed a desire for pregnancy or ambivalence about pregnancy. Participants who desired pregnancy or were ambivalent toward pregnancy were twice as likely to become pregnant during the study. Older teens, those in relationships of less than six months' duration, and those not in school expressed more pregnancy desire. The risk of pregnancy for the teens who were not in school and who expressed pregnancy desire was nearly five times greater than the risk of pregnancy for those in school who expressed no desire for pregnancy.

Pregnant 12- to 19-year-olds in a low-income region of New York were asked whether their pregnancy had been desired at that time, desired earlier, desired later, not desired, or if they were unsure about wanting to be pregnant. In 349 records, they found that Hispanic teens were four times more likely to desire pregnancy than Black teens. Further, when school attendance was factored in, Hispanic females no longer in school full-time were nearly 12 times more likely to desire pregnancy when compared to Black females still in school full-time (Heavey, Moysich, Hyland, Druschel, & Sill, 2008).

Researchers studied a group of 340 sexually active pre-adolescent and adolescent females to determine whether those that use home pregnancy tests are more ambivalent about pregnancy than those who had not used a pregnancy test. Their participants were 340 females between the ages of 10.8 and 19.6 years. The group was racially and ethnically diverse, with the largest group being Hispanic. None had ever been pregnant, all were medically indigent, and none were using adequate contraception. Approximately a quarter of the participants had taken a home pregnancy test with negative results. It seems that teens would see a negative pregnancy test as a warning or

“near miss.” This near miss would then prompt the girls to use more effective contraception in the future. However, studies show that teens with a negative pregnancy test are actually at a higher risk for pregnancy (Kelly, Sheeder, & Stevens-Simon, 2004).

Kelly, Sheeder, and Stevens-Simon (2004) investigated the reasons behind this increased risk. They found that teens who use home pregnancy tests do not expect pregnancy to have negative consequences. Thus, the users of the tests are ambivalent about pregnancy because they expect fewer negative outcomes. As already noted, ambivalence is a risk factor for an increased rate of pregnancy. Teens that do not use home pregnancy tests have higher negative expectations. The researchers suggest that for girls who use home pregnancy tests discussions about realistic expectations of parenthood may be more effective deterrents of pregnancy than discussions about contraception.

**Perceived opportunity, goals, expectations, and future orientation.** Teen pregnancy rates are higher for teens that lack educational goals or perceive that they have limited educational opportunities than for students who have goals and believe that they can attain them (Frisco, 2008). Researchers analyzed information collected as part of a national longitudinal data set. They looked at measures collected from females in the eighth grade and measures collected later in high school. They matched a sample of girls who had a child, were pregnant, or had dropped out of school due to pregnancy with girls of the same race and date of birth who had not become pregnant. Girls with lower personal educational expectations and less confidence that they would graduate from high school were more likely to become pregnant (Young, Turner, Denny & Young, 2004) Further, among teens in school, adolescents with higher GPAs were more likely to delay sexual intercourse. Adolescents who had parents who were interested and involved in their teens’ education are also at lower risk for adolescent pregnancy (Driscoll, Sugland, Manlove, & Papillo 2005).

**Life events and experiences.** A previous adolescent pregnancy is also a risk factor for a future adolescent pregnancy. Teens have a significantly higher risk of having a second child

during the first 24 months postpartum (Strunk, 2008). Approximately 75% of adolescent births are to firstborn children; the balance is to second or later children (Heavey, Moysich, Hyland, Druschel, & Sill, 2008; Klein & Committee on Adolescence, 2005).

Sexual abuse is another life event related to adolescent pregnancy. When researchers reviewed data from a sample of 535 young women who had become pregnant as adolescents (and planned to deliver their child), they found high incidence of sexual abuse. Two-thirds of the sample had been victims of sexual abuse involving physical contact (non-contact sexual abuse was not included in their definition of sexual abuse): 55% had been molested, 42% had suffered attempted rape, and 44% had been raped (Boyer & Fine, 1992).

**Temperament.** In a study of 308 African American young women (Miller-Johnson, Winn, Coie, Maumary-Gremaud, Hyman, Terry, & Lochman, 1999), researchers administered the Child Assessment Schedule, the Child Behavior Checklist, and the Family Environment Scale. They also collected demographic information and peer popularity nominations. They found that aggressive females were approximately 50% more likely to become pregnant as an adolescent compared to nonaggressive females. Aggressive females also had twice as many children, on the average, by age 19 than non-aggressive females from the same population. Girls who exhibited aggression as a stable factor, according to the administration of several sociometric surveys over time, were more likely to have babies in their early teens, compared to non-aggressive girls.

### **How Adolescent Parenting Differs from Adult Parenting**

**Dealing with the simultaneous development of self and child.** An adolescent parent navigates the changing demands of adolescence and parenthood simultaneously. Pregnant adolescents must take on the task of defining themselves as parents while still defining themselves as individuals and young adults (Brooks-Gunn & Chase-Lansdale, 1995).

An adolescent mother experiences the typical life changes that nearly all adolescents face. The changes include forming a separate identity from her family of origin, forming intimate relationships outside of the family, and navigating the changing relationships with her parents.

Next, she must deal with the changes brought about by parenthood. She should adopt “motherhood” as one of her identities and deal with the inevitable changes in her relationship with her romantic partner. While she is navigating these challenging changes, she will probably have to deal with disruptions in her education and changes in her work, living arrangements, and social activities (Brooks-Gunn & Chase-Lansdale, 1995).

Dealing with several major life changes in rapid succession stunts an individual’s ability to develop emotional independence. Even in adolescents who do not experience pregnancy, dealing with multiple major life events has been shown to have a negative effect on education, mental health, and peer relationships (Brooks-Gunn & Chase-Lansdale, 1995).

Developing an adult relationship with one’s own mother is typically a process that takes years. That process may be dramatically foreshortened when an adolescent becomes a mother herself. There is conflict between being economically dependent on your mother and being individuated by becoming a mother yourself. This conflict may complicate the adolescent mother’s relationship with her own mother. Also, the adolescent’s mother may see herself as a co-parent, taking on the responsibilities associated with parenting a young child. If this co-parenting displaces or conflicts with the adolescent mother’s role this is another source of tension (Brooks-Gunn & Chase-Lansdale, 1995).

**Adolescent parenting ability, skill, and knowledge.** Parental characteristics associated with positive attachment and positive outcomes for the child include being warm, interpreting the child’s signals, and being consistently responsive, empathic, and “in tune” with the child. An effective mother must also put her child’s needs ahead of her own (Shapiro, 2003). These attributes are in direct conflict with a self-orientation common in adolescence. Even in older mothers high self-orientation has been shown to be associated with less effective parenting (Brooks-Gunn & Chase-Lansdale, 1995).

Moreover, the complex reasoning and specific knowledge needed in parenting may be absent in adolescents. Brooks, Gunn and Chase-Lansdale (1995) found a deficit in complex

reason in adolescent mothers. In a study by Reis (1988), younger adolescent mothers (aged 16 or younger) were found to have less child development knowledge than older mothers. In fact, adolescent mothers and fathers often have little or no knowledge of parenting or child development (Strunk, 2008). Knowledge of child development is necessary in order to be aware of the child's needs (Shapiro, 2003).

Having realistic expectations of children, based on their developmental level, is an aspect of parental maturity (Reis, 1988). Teen mothers have less realistic expectations of their children than older mothers (Medora & Goldstein, 2001). Adolescent mothers expect too little or too much, and expect development too early or too late from their children (Shapiro, 2003; Brooks-Gunn & Chase-Lansdale, 1995). For example, teens are more likely to believe that a baby's crying is a desire to be spoiled, which may prevent teen mothers from being physically and emotionally responsive to their children (Shapiro, 2003).

Due to both inexperience and a parenting knowledge teens may have a less realistic understanding of infant and child development compared to older parents. Further, the special needs following low birth weight, premature delivery or illness can compound the negative effects of parenting with unrealistic expectations. Finally, less skilled mothers are at a larger disadvantage should they develop postpartum depression (Brooks-Gunn & Chase-Lansdale, 1995).

**Use of less optimal parenting practices.** Adolescent mothers have less desirable parenting practices than older mothers (Medora & Goldstein, 2001). Adolescents may lack skills as parents because of inexperience, preoccupation with their own developmental issues, a less well-formed identity as a parent, and/or division of the parenting role with their own mothers. Any of these factors may reduce their effectiveness in caring for their infants (Brooks-Gunn & Chase-Lansdale, 1995).

In a study by Reis (1988), younger adolescent mothers (aged 16 or younger) were found to have significantly more punitive attitudes toward child-rearing. Adolescent mothers tend to

use more corporal punishment than older mothers (Young, Turner, Denny, & Young, 2004).

Adolescent mothers are less likely to stimulate their infant's development as compared to older mothers (Young, Turner, Denny, & Young, 2004) and they tend to be less verbal with their babies (Shapiro, 2003).

When compared with mothers in their 20's, adolescent mothers speak less to their children. Adolescent mothers, regardless of socioeconomic status (SES), speak far fewer words to their babies and toddlers than older mothers, closely matching the patterns of low SES mothers. This pattern is important since hearing more words is associated with better preparation for kindergarten. Teen mothers tend to use more commands when they do talk to their young children and babies. They also tend to use less affectionate speech and less joint attention speech with their offspring (Hoff, 2006).

### **Adolescent Attitudes toward Pregnancy and Parenthood**

Decisions about sexual activity can have a pervasive effect on a teen's life; few decisions can rival the impact (Herrman & Waterhouse, 2010). In a study by Gallup-Black and Weitzman (2004), over half of the 2768 youth surveyed indicated that teen parenthood was "considered acceptable." The intention to remain celibate during high school is related to negative attitudes toward pregnancy, and the economic, social, and psychological consequences of pregnancy (Bazargan & West, 2006).

Researchers used the Thoughts on Teen Parenting Survey (TTPS) to investigate the attitudes of adolescents concerning pregnancy and parenthood. A sample of 695 teens (males = 293, females = 323, unknown = 79) with a mean age of 15.7 years were administered the survey through their health classes. Results found that students eligible for free or reduced lunch, which was used an indicator of low SES, were more likely to have a positive attitude toward adolescent parenting. Children and siblings of adolescent parents were also more positive about adolescent parenthood (Herrman & Waterhouse, 2010).

Herrman (2008) used focus groups to provide qualitative data on teen perceptions of the costs and rewards of pregnancy and to determine whether teens had someone with whom to discuss sexuality. Participants included both teen parents and non-parents aged 12 to 19. Seventeen focus groups, which included 72 females and 48 males, were conducted over a six-week period. The participants were determined by self-report, demographics, or referral based on previous behaviors to be at high-risk for adolescent pregnancy or parenthood. Sixty-six percent of the participants were Black, 19% were White, and 11% were Hispanic. The data revealed several themes regarding the impact of early pregnancy on relationships, impact on vocation, and impact on self (Herrman, 2008). Participants identified both negative and positive effects of early pregnancy. However, the participants tended to be naïve about the responsibilities associated with pregnancy or parenthood during adolescence and were unable to fully grasp the future implications of their current actions and choices. They showed an understanding of how parenthood would impact their day-to-day lives, but did not seem to consider all of the financial costs of parenthood, such as healthcare, shelter, utilities, and food.

Researchers conducted a qualitative study of 247 pregnant women between the ages of 12 and 19 recruited from a primary care clinic in Rhode Island (Rosengard, Pollock, Weitzen, Meers, & Phipps, 2006). The average age was 16.8 years (standard deviation [*SD*] = 1.5). Nearly one-fifth were White, 17.8% were Black, and 47.3% were Hispanic, with the remainder coming from other racial and ethnic backgrounds. A structured interview asked about pregnancy intentions, feelings about their pregnancies, support systems, birth control use, and substance abuse history, as well as other related topics. The participants related several advantages to pregnancy, namely enhancing interpersonal connections, positive changes and benefits, and practical considerations. Disadvantages include lack of preparedness, negative changes and interference with the typical activities of adolescent life, and people's perceptions of early pregnancy. Slightly over 23% indicated that their pregnancy was intended. Researchers evaluated this variable by asking

subjects to respond to a question about wantedness (the degree that something is emotionally desired) as either wanted now, wanted in the next few months, or wanted within the year.

Among the advantages listed, the teens included their love of and excitement about babies, having someone to love, being close in age to the child, and gaining family and/or partner support (Rosengard, Pollock, Weitzen, Meers, & Phipps, 2006). Another positive factor listed was that the pregnancy gave them a reason to grow up and become responsible, and to have a purpose to life. For practical considerations, the teens noted that they are young and energetic, they can put infertility concerns to rest, and that they will have child-free time later in their lives.

For disadvantages, the adolescents noted that they were too young, immature, and emotionally unprepared. They noted their lack of financial resources, employment opportunities, steady relationships, and stable housing arrangements. Missing out on the teen years and having a more difficult life were noted as was the feeling that they are seen differently by other people (Rosengard, Pollock, Weitzen, Meers, & Phipps, 2006).

Nearly 17% of the teens aged 12 to 15 listed no disadvantages while 13.3% of teens 18 and 19 listed no disadvantages or indicated that an early pregnancy was no different than one later in life. Those who intended their pregnancies were over two times as likely to indicate no disadvantages. All in all, the adolescents were able to generate more disadvantages than advantages (Rosengard, Pollock, Weitzen, Meers, & Phipps, 2006).

Some researchers have identified several positive beliefs about pregnancy and adolescent parenthood that teens tend to hold (Hacker, Amare, Strunk, & Horst, 2000; Kegler, Bird, Kyle-Moon, & Rodine, 2001; The National Campaign to Prevent Teen Pregnancy, 2006; Wiemann, Rickert, Berenson, & Volks, 2005; Corcoran, Franklin, & Bell, 1997; Gallup-Black & Weitzan, 2004; Unger, Molina, & Teran, 2000). Among these positive beliefs are as follows:

- Parenthood helps teens achieve independence.
- Parenthood grants adolescents adult status.
- Pregnancy helps teens maintain relationships with their romantic partner.

- Pregnancy brings adolescents closer to their own families.
- Pregnancy puts to rest concerns about infertility.
- Funds become available in terms of child support and government assistance.
- Early parenting allows more time later for education and career.
- Teen parents gain attention.
- A baby is a source of pleasure (especially in an otherwise difficult life).
- A baby is someone to cherish and love.
- Parenthood prompts teens to be more responsible and work harder.
- Parenthood will provide love for adolescent parents.

Researchers have also identified negative dimensions of pregnancy that teens recognize (Jewell, Tacchi, & Donovan, 2000; Kegler, Bird, Kyle-Moon, & Rodine, 2001; The National Campaign to Prevent Teen Pregnancy, 2006; Rosengard, Pollok, Weitzen, Meers, Phipps, 2006; Wiemann, Rickert, Bereson, & Volk, 2005). These include the following:

- Parenthood diminishes social lives.
- Parenthood causes social isolation.
- Negative stigma is associated with adolescent pregnancy.
- School, work, and parenting compete for time and resources.
- Personal and career development opportunities are limited.
- Financial resources are limited.
- Parents may disapprove of the pregnancy.

### **Scales of Adolescent Attitudes toward Pregnancy and Parenthood**

**Thoughts on Teen Parenting Survey.** Herrman and Nandakumar (2012) developed a survey – Thoughts on Teen Parenting Survey - to evaluate the perceptions of adolescents about teen parenthood. The development of the survey was based on the inference that teens who believe that having a baby will have a positive impact on their lives – or fail to understand the

negative consequences. Adolescents were defined as people aged 14 to 19. After item development and pretesting, exploratory factor analysis revealed six factors in the responses. The six factors included external impact, self-esteem, family and finance, friends and relationships, personal time, and work. The final form of the TTPS is a 44-item survey with strong internal consistency ( $\alpha = .90$ ; Cronbach, 1951). Sample items follow:

- If I had a baby as a teen, I would lose friends.
- Having a baby as a teen makes boys feel more like men.
- If I had a baby as a teen, my parents/guardians would be mad.
- If I had a baby as a teen, I would do better in school.
- If I had a baby as a teen, I would still be able to research my dreams and goals.
- If I had a baby as a teen, I would get more attention.

While the instrument has strong internal consistency and is based on a reasonable theory, its 44-item format can make administration somewhat tedious. According to the authors, the instrument is a work-in-progress and they hope to improve the split-half and test-retest reliability (Herrman & Nandakumar, 2012).

**Perceived Consequences of Teenage Childbearing (PCTC).** Unger, Molina, and Teran (2000) developed and validated the PCTC. The measure was developed to investigate whether adolescent females who perceived positive consequences associated with pregnancy also tended to have particular attitudes and sexual behaviors.

The original instrument was developed based on information obtained during focus groups conducted with students from an urban Los Angeles High School. During the study, a sample of 584 adolescent females, mostly Hispanic, largely Catholic, and aged 13 to 20, was given a paper-and-pencil survey that assessed attitudes and risks vis-à-vis adolescent pregnancy, and collected demographic information. For the PCTC, participants rated items on a scale from 1 “definitely not” to 4 “yes, definitely.”

Correlations between theorized predictors and scores on the PCTC were calculated. Items most highly correlated with those predictors were used in a multiple regression model. Next, logistic regression was used to determine the odds ratios of certain sexual behaviors based on PCTC scores. The resulting instrument exhibited strong internal consistency ( $\alpha = .80$ ). Scores did not vary significantly based on age, religious affiliation, acculturation, or grades in school. Scores did vary by ethnicity with Latinas having the highest scores, followed by African Americans, other ethnicities, and then White.

A four-point scale was used to respond to each item, ranging from 1 “definitely not” to 4 “yes, definitely.” The resulting 11-item instrument is comprised of the following items:

- I would feel like someone really needs me.
- It would be the first time I had something that was truly mine.
- For the first time, I would have someone who really loves me.
- I would never be lonely
- I'd be able to make enough money to support the baby and myself.
- My boyfriend would be more committed to me.
- I would feel more like an adult.
- I would feel like I had truly done something meaningful in life.
- I'd still be able to finish my high school education.
- My family would help me to raise the baby.
- My family would let me continue to live at home.

Among these high school students, perceiving positive consequences of pregnancy, as rated by the scale, was related to higher rates of intercourse and higher rates of unprotected intercourse. Positive scores were higher among those who did not aspire to continue their educations or have career goals.

The instrument is short and would be easy to administer. However, the sample involved in the development was mostly Catholic and Hispanic, which limits the generalizability of the study.

**A measure of future orientation, realism about child rearing, personal intentions, and sexual self-efficacy.** Somers, Johnson, and Sawilowsky (2002) developed an instrument to measure attitudes toward pregnancy in order to provide a method of evaluating pregnancy prevention programs. The researchers were specifically influenced by the work of Moore, Sugland, Blumenthal, Glei, and Snyder (1995), and Somers and Gizzi (2001), which suggested that lower rates of teen pregnancy are related to a future orientation concerning goals and expected successes. Research by Strachan and Gorey (1997) influenced them to include a measure of realistic ideas about parenting in their instrument.

The validation study included 213 White students (females = 169) from the 10th, 11th, or 12th grade in suburban high schools from the Midwest. Most students were from middle or upper-middle class SES families.

The scale included four subscales: (a) Future Orientation, (b) Realism About Child Rearing, (c) Personal Intentions (e.g., about birth control), and (d) Sexual Self-efficacy. Students were asked to rate each of 16 items on a five-point scale. The internal consistency for the subscales was lowest for ranged Personal Intentions ( $\alpha = .68$ ) and highest for Child Rearing ( $\alpha = .82$ ). The internal consistency for the total scale was high ( $\alpha = .73$ ). Exploratory factor analysis confirmed the four subscale model used. Test-retest reliability was satisfactory for three of the four subscales.

Sample items from the scale appear below:

- Finishing high school is important to me.
- Having a child as a teen would make it harder for me to further my education after high school.
- I am responsible enough to be a good parent now.

- I always use some type of birth control when having sexual intercourse.
- How sure are you that you could say no to your boyfriend/girlfriend if he/she wanted to have sex and you didn't?

**Measure of costs and benefits.** Deptula, Henry, Shoeny, and Slavick (2006) collected information to demonstrate the predictive validity of a measure of Costs and Benefits of Sexual Intercourse and Pregnancy. The researchers evaluated data collected as part of Wave I and Wave II of the National Longitudinal Study of Adolescent Health (Add Health; Bearman, Jones, & Udry, 1997).

From the pool of participants, a random sample of 12,105 adolescents stratified by gender and grade became a group called the “core” sample. The measure validated was a 14-item cost/benefit measure concerning attitudes toward sexual intercourse and pregnancy. A factor analysis based on a randomly selected subsample revealed a 2-factor solution. Internal consistency was strong (Cronbach's  $\alpha = .79$  for costs and  $\alpha = .78$  for benefits). A confirmatory sample of those not included in the initial development of the solution showed a 2-factor solution ( $\alpha = .76$  for costs and  $\alpha = .77$  for benefits).

The 14 items from the measure appear below:

- If you had sexual intercourse, your friends would respect you more.
- If you had sexual intercourse, it would give you a great deal of physical pleasure.
- If you had sexual intercourse, it would relax you.
- If you had sexual intercourse, it would make you more attractive to (men/women).
- If you had sexual intercourse, you would feel less lonely.
- If you had sexual intercourse, your partner would lose respect for you.
- If you had sexual intercourse, afterward, you would feel guilty.
- If you got (someone) pregnant, it would be embarrassing for your family.
- If you got (someone) pregnant, it would be embarrassing for you.

- If you got (someone) pregnant, you would have to quit school.
- If you got (someone) pregnant, you might marry the wrong person.
- If you got (someone) pregnant, you would be forced to grow up too fast.
- Getting (someone) pregnant at this time in your life is one of the worst things that could happen to you.
- It wouldn't be all that bad if you got (someone) pregnant at this time in your life.

The instrument was developed based on a large sample size. It shows evidence of construct validity through the factor analysis. The internal consistency, as evidenced by the Cronbach's  $\alpha$ , is strong. However, the emphasis on this instrument is sexual intercourse and pregnancy. There are no questions that ask about the individual's attitudes and opinions on parenthood.

**A measure of expectations of the effects of becoming pregnant.** Stevens-Simon, Sheeder, Beach, and Harter (2005) developed and validated an instrument to assess perceptions of the effects of childbearing on various aspects of life. It is based on their theory that sexually active adolescent girls who do not hold negative beliefs about the impact of parenthood on their lives are more likely to use inadequate contraception and are at a higher risk for pregnancy.

The final instrument contained sixteen items. The instrument was administered to 351 female adolescents with a mean age of 16.4 (ranging from 10.8 to 19.6 years old) recruited from three urban teen clinics. These clinics serve a population that is medically indigent. Participants were sexually active, never pregnant, and had used no birth control or a poor birth control method (e.g., withdrawal, douching, and rhythm method) at least once during the last four occurrences of sexual intercourse. The group was 19% White, 25% Black, and 55% Hispanic participants. Over 80% of the participants had used illegal drugs or alcohol, been truant, been in jail, dropped out of school and/or had run away from home. A factor analysis was conducted, which yielded a three-

factor solution. The factors - Future Plans, Self-esteem, and Boyfriend Relations - accounted for 56% of the variance. The items follow:

- I feel that having a baby now would get in the way of my plans for the future.
- I feel that having a baby now would fit into my plans for the future.
- Having a baby now would be too much of a burden on me.
- Having a baby now would not be too much of a burden on me.
- I would not like myself as much if I had a baby now.
- I would like myself as much if I had a baby now.
- I would think less highly of myself if I had a baby now.
- I would think more highly of myself if I had a baby now.
- I feel that having a baby now would drive my boyfriend and me apart.
- I feel that having a baby now would bring me closer to my boyfriend.
- Having a baby now would cause trouble between me and my boyfriend.
- Having a baby now would make things better between me and my boyfriend.
- If I had a baby, I might have to get my own place, which would be worse for me.
- If I had a baby, I might have to get my own place, which would be better for me.
- If I had a baby now, I would have to move out of my home, which I would not feel good about.
- If I had a baby now, I would have to move out of my home, which I would feel good about.

This validation study included a largely Hispanic sample. Also, 80% of the sample population had demonstrated poor conduct behavior such as drug use or running away. Some members of the population were pre-adolescent, since the minimum age was 10 years 8 months. The sample characteristics make it difficult to generalize the results to the general adolescent population.

### **The Pregnancy and Parenting Scale**

Condon, Donovan, and Corkindale (2000) hypothesized that adolescents hold idealistic and romantic views of pregnancy and parenthood which in turn affect whether adolescents will become parents. Generally, research indicates that a sizeable percentage of adolescent pregnancies occur because of overly positive attitudes pregnancy, parenthood, and the life changes they would bring.

These researchers suggested a definition of the construct idealism based on a conceptual continuum with realistic optimism on one end and “romanticization” or “glamorization” on the other. They held that a belief about a situation could be considered idealized if it were contrary either to a consensus of research on the topic or to the typical experiences of people who have actually lived through that particular situation. For example, believing that parenthood will have a positive impact on the relationship between the parents is contrary to research which fails to support this idea and would, therefore, be considered to be an idealized belief. Another example is that relatively few fathers of children born to adolescent mothers remain active in the lives of their children. This is seen in frequency of contact and support provided several years into the child’s life (Brooks-Gunn & Chase-Lansdale, 1995).

Condon, Donovan, and Corkindale (2000) developed items for their scales, some of which were stated positively while others were stated negatively and reverse scored. During the initial development on the PPS, the researchers piloted the items they had developed with 48 students from age 14 to 18. The pool of statements was reduced to 12 concerning pregnancy and 14 concerning parenting babies. The validation study involved approximately 1500 participants in South Australia from school years 11 and 12. The resulting instrument was devised after analyzing the items, reviewing evidence of reliability, and conducting a factor analysis. The Idealization of Pregnancy subtest had been reduced to 10 items and the Idealization of Parenthood subtest was reduced to 11 items. Factor analysis identified two solutions for each subtest. For pregnancy, a positive factor that may be described as being closer to one’s partner and

experiencing happiness accounted for 43% of the variance. The second factor involved an absence of negative consequences (16%). For parenthood, 26% of the variance linked parenthood to closeness, happiness, and harmony. Approximately 13% of the variance is explained by a factor that can be described, once again, as an absence of negative outcomes. A test-retest study was conducted with 190 students. Scores from the first and second administrations of the scale were moderately correlated ( $r = 0.61, p < .001$  for the pregnancy subscale and  $r = 0.66, p < .001$ , for the parenthood subscale).

Condon, Donovan, and Corkindale concluded that between one-fourth and one-third of Australian adolescents hold idealized beliefs about pregnancy and parenthood. These beliefs include over-estimating the positive impact of pregnancy and parenthood and underestimating the negative impact.

### **Purpose of the Current Research**

A review of the literature indicates that adolescent pregnancy has a broad negative impact. It is associated with negative financial, emotional, social, health, and educational outcomes, and outcomes that impact future generations (Herrmann & Nandkumar, 2012; Harris & Allgood, 2009; Partington, Steber, Blair, & Cisler, 2009; Strunk, 2008; Xi-Kaun, Wen, Fleming, Demissie, Rhoads, & Walker, 2007; Oxford & Spieker, 2006). A sizeable proportion of adolescents either desire pregnancy or are ambivalent about pregnancy. Both of these beliefs seem to lead to similar outcomes, that is, higher rates of adolescent pregnancy (Sipsma, Ickovics, Lewis, Ethier, & Kershaw, 2011; Sheeder, Teal, Cranes, & Stevens-Simon, 2010; Jaccard, Dodge, & Dittus, 2003). It is theorized that adolescents who desire adolescent pregnancy may hold unrealistic, overly positive, idealized, or romanticized attitudes toward adolescent pregnancy and parenthood (Condon, Donovan, & Corkindale, 2000). In order to intervene and reduce adolescent pregnancy rates it may be important to first identify those most at risk due to their unrealistically positive attitudes. Further, the impact of successful programs may show up in a shift in attitude about the desirability of adolescent pregnancy. It may also be revealing to

compare the attitudes of students who go on to higher education compared to those who choose (or do not effectively avoid) pregnancy. The research questions for this study follow:

- Is the Pregnancy and Parenthood Scale (PPS) a reliable assessment of idealistic attitudes toward pregnancy and parenthood for American college students?
- What evidence of construct validity does the PPS possess? To what extent do the PPS subscales measure different constructs?
- To what extent are the responses to the PPS similar for Australian students in grades 11 and 12 and American college students at a southeastern public university?

## METHOD

### **Participants**

College students at a southeastern public university were recruited from introductory psychology courses. These students partially fulfilled a course requirement by participating in this study. Participants were aged 18 to 22 years old (age 18,  $N = 85$ ; age 19,  $N = 27$ ; ages 20-22,  $N = 13$ ), never pregnant or had never fathered a pregnancy, and were never married. Two of the questionnaires were discarded because the participants were 23 or older. Two were discarded because the students had been married, and two more had been pregnant or parented children. Of the 131 instruments completed by the participants, 125 met the requirements for inclusion and analysis.

Participants were neither ethnically diverse (4% were Hispanic; 96% were non-Hispanic) nor racially diverse (78.4% indicated they were White on the ethnicity item). Most students indicated an affiliation with a religious group (64.8% were Protestant, 15.2% were Catholic, and 20% had other affiliations or were not religious). Of the 125 qualifying instruments, 79 were completed by females.

The current study was approved by the Institutional Review Board of the students' institution. No personally identifying information was collected in the study. All participants signed a consent form that included a brief description of the study. See Appendix A for the consent form.

### **Instrument**

The instrument was presented using Qualtrics™ (2013), an online survey package that was accessed with a standard iPad2®. Instructions and items were presented individually on separate screens. The presentation of the instrument in this manner allowed participants to simply touch their response choice for each item. The software advanced to the next screen after

the participant responded to the item on the current screen. Qualtrics™ collected and collated the data in preparation for data analysis.

There were four sections in the instrument: the Idealization of Pregnancy subscale from the PPS, the Idealization of Parenting subscale from the PPS, five items unrelated to the current research, and 6 demographic items. See Appendix B for the complete questionnaire.

The first two sections of the questionnaire were comprised of all of the items in the Idealization of Pregnancy and Idealization of Parenting subscales of the PPS, presented with a five-point Likert scale ranging from “Strongly Disagree” to “Strongly Agree.” This direction was opposite the one used in the original study, which ranged from “Strongly Agree” to “Strongly Disagree.” The change in direction was consistent with the practice of arranging responses from the “least” to the “most” of whatever is being assessed with a Likert scale. The items in both subscales were presented randomly within their respective sections.

The last section of the questionnaire was comprised of demographic items. These items were presented to participants in a fixed order. This section included items about sex, age, ethnicity, religion, previous pregnancy involvement, and marital status.

Simple instructions guided each participant through the questionnaire at his or her own pace. All of the participants were given all of the pregnancy items, then the parenthood items, then the unrelated items, and finally the demographic items.

## RESULTS

**Descriptive Statistics**

**Item responses and response means.** Data from the 125 participants were analyzed. One item was reversed scored so that higher ratings indicated a more idealized opinion. Mean item responses ranged from 1.63 to 4.05. To the extent that higher scores indicate greater idealization, the variations in these means suggest that the items that comprise the scale vary in their level of romantization. Standard deviations ranged from .720 to 1.073. These are relatively large standard deviations, ranging from a little less than  $\frac{3}{4}$  of a scale point to just over a full scale point, which indicates that using a Likert scale for a conceptually continuous variable was acceptable. See Table 1 for item responses, means, and standard deviations.

Table 1

*Descriptive Statistics for Items on the PPS*

Item	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Mean	SD
It is easy for a woman to adjust to the psychological & physical changes of pregnancy.	17	69	27	11	1	2.28	.839
Most women feel better emotionally when they are pregnant.	20	72	27	5	1	2.16	.766
A pregnant woman would never feel anger towards her unborn baby.	15	63	32	10	5	2.42	.943
Most men feel emotionally involved towards their unborn baby.	4	26	33	57	5	3.26	.943

Most women who smoke find it easy to quit if they get pregnant.	17	43	36	28	1	2.62	1.005
Men find partner's pregnancies stressful.*	16	83	21	3	2	2.14	.722
Men feel closer to their partners during pregnancy than at most other times.	6	17	49	48	5	3.23	.908
Pregnancy is one of the happiest times in most women's lives.	2	23	52	41	7	3.22	.869
The couple relationship usually is closer during pregnancy.	1	17	53	48	6	3.33	.801
Almost all women feel love at first sight when they first see their baby.	1	6	19	59	40	4.05	.860
Childless couples tend to end up lonely and unhappy.	22	58	35	9	1	2.27	.865
Parents instinctively know how to cope with changes which occur in their lives after the birth of a baby.	10	40	38	36	1	2.82	.968
Becoming a mother need not change a woman's life very much.	59	58	4	3	1	1.63	.735
Having a baby makes a marriage complete.	21	53	35	13	3	2.39	.966
Becoming a father need not change a man's lifestyle very much.	56	60	6	2	1	1.66	.720

Having children usually improves the couple's relationship.	9	31	61	24	0	2.80	.833
You don't have to learn how to be a competent parent; it just comes naturally.	19	68	26	11	1	2.26	.851
Most men don't resent the attention their partners give the baby.	2	19	52	52	0	3.23	.763
Parenting is almost always enjoyable.	7	31	45	37	5	3.02	.967
It is very unusual for a parent to feel angry enough to want to physically hurt their young baby.	4	24	30	47	20	3.44	1.073
Children will turn out well if they have caring parents.	2	26	47	39	11	3.25	.939

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\*Item reverse scored

**Response differences by sex.** A series of independent mean *t*-tests was conducted to compare mean responses to items on the Pregnancy and Parenthood scale for females and males. Statistical significance was set at the 0.05 level for all analyses. Cohen's *d* (Cohen, 1988) was calculated as a measure of effect size for statistically significant differences. An effect size of .8 is interpreted as a large effect size, an effect size of .5 is interpreted as a moderate effect size, and an effect size of .2 is interpreted as a small effect size.

Males were more likely to agree with the statement "Most men feel emotionally involved towards their unborn baby," than females,  $t(123) = 4.153, p < .001, d = .80$ . Males also showed more agreement than females with the item "Men find partners' pregnancies stressful"  $t(123) = 2.699, p < .008, d = .52$ . Males and females differed in their responses to the item "Having children usually improves the couple's relationship" from the Parenting subscale. Females tended to disagree with the statement while males showed a tendency for agreeing with it,  $t(123)$

= -2.549,  $p < .012$ ,  $d = .47$ . See Table 2 for mean responses for items with significant differences by sex.

Table 2

*Mean Responses for Items with Significant Differences by Sex*

Item	Mean Responses	
	Female	Males
Men find partners' pregnancies stressful	2.27	1.91
Most men feel emotionally involved towards their unborn baby	3.01	3.70
Having children usually improves the couple's relationship	2.66	3.04

In the original study in Australia, responses were statistically significantly different by sex for 10 statements. In the current study, only 3 statements showed these differences. Only one item showed a significant sex difference in both studies: "Having children usually improves the couple's relationship." Males responded with more idealization on this item in both studies. Condon, Donovan, and Corkindale (2000) noted that because of the large sample sizes, even small differences were often statistically significant. Effect sizes for their study were not reported. Table 3 shows which items from each study were significantly different between Males and Females.

Table 3

*Items with Significantly Different Responses for Males and Females*

Item	Significant Difference by Sex	
	Current Study	Original Study
A pregnant woman would never feel anger towards her unborn baby		X
Men feel closer to their partners during pregnancy than at most other times		X
The couple relationship usually is closer during pregnancy		X
Men find partners' pregnancies stressful	X	
Most men feel emotionally involved towards their unborn baby	X	
Parents instinctively know how to cope with changes which occur in their lives after the birth of a new baby		X
Having a baby makes a marriage complete		X
Becoming a father need not change a man's lifestyle very much		X
Having children usually improves the couple's relationship	X	X
Most men don't resent the attention their partners give the baby		X
It is very unusual for a parent to feel angry enough to want to physically hurt their young baby		X
Children will turn out well if they have caring parents		X

**Response differences by age.** One-way analyses of variance (ANOVAs) were conducted to compare means based on age and religious affiliation. Eta-squared ( $\eta^2$ ) was calculated as a measure of practical effect for all statistically significant results (Cronbach &

Meehl, 1955). Eta-squared values of .1 are interpreted as small effect sizes; .2 as moderate effect sizes, and .4 as large effect sizes. Additionally, Tukey's Honestly Significant Difference (HSD) tests (Tukey, 1953), or Tukey's HSD post hoc tests, were conducted on statistically significant results.

In order to analyze the results by age, three categories were formed: age 18, age 19, and ages 20 through 22. Since only 13 of the 125 participants were ages 20, 21, or 22, categories for these ages were collapsed to allow for meaningful analyses. The ANOVA for the age variable showed that participants in the 20- to 22-year-old group agreed more strongly with the Pregnancy subscale item "The couple relationship usually is closer during pregnancy" compared to the participants aged 18,  $F(2,122) = 4.095, p < .020, \eta^2 = .06$ . Tukey's HSD showed that no other pairwise comparison was statistically significant. See Appendix C for Tukey's HSD for items with significant results.

**Response differences by religious affiliation.** Responses concerning religious affiliation were recoded into one of four groups: non-religious (agnostic and atheist), Catholic, Protestant, and other. Seven participants were recoded into the "Other" category and included Buddhist, Hindu, Muslim, and those who originally responded "Other" to the item on the questionnaire. All participants who selected "Protestant" in response to the religious affiliation item or who typed in a religious affiliation with a protestant church were recoded as "Protestant."

None of the Pregnancy subscale items had mean responses that differed significantly based on religious affiliation. For the Parenting subscale item "Parents instinctively know how to cope with changes which occur in their lives after the birth of a baby," Protestants ( $M = 3.04$ ) were more likely than non-believers ( $M = 2.17$ ) to agree with the item,  $F(3,121) = 5.362, p < .002, \eta^2 = .117$ . Protestants ( $M = 3.42$ ) agreed with the item "Most men don't resent the attention their partners give the baby" more than those affiliated with Other religions ( $M = 2.57$ ),  $F(3,121) = 6.423, p < .001, \eta^2 = .121$ . Tukey's HSD showed that no other pairwise comparison was statistically significant. See Appendix D for Tukey's HSD for items with significant results.

## Reliability

**Cronbach's alpha.** Cronbach's alpha coefficient was calculated for the full instrument and for the Pregnancy and Parenting subscales separately. For the full instrument, the Cronbach's alpha was .776; for the Pregnancy subscale, .630; and for the parenting subscale, .688. A widely accepted standard sets 0.80 as the minimal Cronbach's alpha for tests and surveys. The Spearman-Brown Prophecy Formula (Brown, 1910; Spearman, 1910) indicated that an additional four items (3.24 items rounded up to the next whole number) would be needed to raise the level of internal consistency to an acceptable level for the whole instrument.

Although the instrument failed to reach the ideal minimal Cronbach's  $\alpha$  of 0.80, 59.9% of the variability in responses can be accounted for by the instrument. A Cronbach's alpha of 0.80 would indicate that an instrument accounted for 64% of the variability in responses. These numbers indicate that the instrument is not far from the established ideal minimum.

**Point-biserial correlations.** Point-biserial correlations are correlations between a dichotomous variable and a continuous variable. The point biserial indicates the strength of the relationship between an individual item and the total scale. Point-biserial correlations ranged from .017 to .538. Two items, if removed from the instrument, would result in higher reliability coefficients. These items are "Men find partner's pregnancies stressful," and "Childless couples tend to end up lonely and unhappy." See Table 4 for point-biserials.

Table 4

*Point-Biserial Correlations for Each Item*

Item	Point-Biserial	Cronbach's Alpha if Item Deleted
It is easy for a woman to adjust to the psychological & physical changes of pregnancy.	.269	.771
Most women feel better emotionally when they are pregnant.	.397	.764
A pregnant woman would never feel anger towards her unborn baby.	.435	.760
Most men feel emotionally involved towards their unborn baby.	.337	.767
Most women who smoke find it easy to quit if they get pregnant.	.255	.773
Men find partner's pregnancies stressful.	.017	.784
Men feel closer to their partners during pregnancy than at most other times.	.332	.767
Pregnancy is one of the happiest times in most women's lives.	.357	.766
The couple relationship usually is closer during pregnancy.	.391	.764
Almost all women feel love at first sight when they first see their baby.	.346	.766
Childless couples tend to end up lonely and unhappy.	.167	.777
Parents instinctively know how to cope with changes which occur in their lives after the birth of a baby.	.397	.763
Becoming a mother need not change a woman's life very much.	.205	.774
Having a baby makes a marriage complete.	.517	.754
Becoming a father need not change a man's lifestyle very much.	.191	.775
Having children usually improves the couple's relationship.	.538	.755
You don't have to learn how to be a competent parent; it just comes naturally.	.405	.763

Most men don't resent the attention their partners give the baby.	.303	.769
Parenting is almost always enjoyable.	.396	.763
It is very unusual for a parent to feel angry enough to want to physically hurt their young baby.	.280	.772
Children will turn out well if they have caring parents.	.367	.765

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## Validity

**Convergent and divergent validity.** Convergent and divergent validity are subtypes of criterion validity (Thorndike, 1918). The extent to which responses that should be similar were similar and those that should be dissimilar were dissimilar was analyzed. If the two subscales are indeed related but tap separate constructs, as postulated by the original authors, the correlation between the subscales should be moderate or low. A high correlation would indicate that they tap the same construct. Aggregated ratings from the Pregnancy subscale correlated moderately strongly and significantly with the aggregated ratings from the Parenthood subscale ( $r = .561, p < .001$ ). This correlation provides evidence for both divergent validity and construct validity, suggesting that the two subscales do indeed tap separate, but related, constructs.

Stronger correlations were found between the subscale totals and the whole scale totals. The Pregnancy subscale and whole scale totals were significantly correlated,  $r = .863, p < .001$ , as were the Parenthood subscale totals and the totals for the whole scale,  $r = .903, p < .001$ . These correlations indicate that the subscales are each related to a more comprehensive “umbrella” concept.

Based on average scores and the scale author's conceptualization of idealization, items from the Pregnancy subscale were ordered from least to most idealized based on their average ratings. The item least idealized on the Pregnancy subscale was “Men find partner's pregnancy

stressful.” The most idealized item was “Almost all women feel love at first sight when they first see their baby.” On the Parenthood subscale, the least idealized item was “Becoming a mother need not change a woman’s life very much.” “It is very unusual for a parent to feel angry enough to want to physically hurt their young baby” was the most idealized. Note that some items are written in the direction of idealization and others are written in the opposite direction so that agreeing with a statement that is written in an idealized direction (“Almost all women feel love at first sight when they first see their baby”) is indicative of an idealized belief while agreeing with the realistic statement “Men find their partners pregnancy stressful” in an indication that participants do not hold realistic beliefs for that item. See Table 5 for Idealization of Pregnancy items and Table 6 for Idealization of Parenthood items from least to most idealized.

Table 5

*Mean Responses for Idealization of Pregnancy Items from Least to Most Idealized*

<u>Item</u>	<u>Mean Score</u>	<u>SD</u>
Men find partner’s pregnancy stressful.	2.14	.72
Most women feel better emotionally when they are pregnant.	2.16	.77
It is easy for a woman to adjust to the physiological and physical changes of pregnancy.	2.28	.84
A pregnant woman would never feel anger towards her unborn baby.	2.42	.94
Most women who smoke find it easy to quit if they get pregnant.	2.62	1.01
Pregnancy is one of the happiest times in most women’s lives.	3.22	.87
Men feel closer to their partners during pregnancy than at most other times.	3.23	.91
Most met feel emotionally involved towards their unborn baby.	3.26	.94

The couple relationship usually is closer during pregnancy.	3.33	.80
Almost all women feel love at first sight when they first see their baby.	4.05	.86

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Table 6

*Mean Responses for Idealization of Parenthood Items from Least to Most Idealized*

<u>Item</u>	<u>Mean Score</u>	<u>SD</u>
Becoming a mother need not change a woman's life very much.	1.63	.74
Becoming a father need not change a man's lifestyle very much.	1.66	.72
You don't have to learn how to be a competent parent; it just comes naturally.	2.26	.85
Childless couples tend to end up lonely and unhappy.	2.27	.87
Having a baby makes a marriage complete.	2.39	.97
Having children usually improves the couple's relationship.	2.80	.83
Parents instinctively know how to cope with changes which occur in their lives after the birth of a baby.	2.82	.97
Parenting is almost always enjoyable.	3.02	.97
Most men don't resent the attention their partners give the baby.	3.23	.76
Children will turn out well if they have caring parents.	3.25	.94
It is very unusual for a parent to feel angry enough to want to physically hurt their young baby.	3.44	1.07

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Comparison of the rank ordering of items from least to most idealistic from the current study and the original study by Condon, Donovan, and Corkindale (2000) reveals some interesting contrasts and commonalities. For both studies, the most idealized pregnancy item was “Almost all women feel love at first sight when they first see their baby.” For both studies, “Most women feel better emotionally when they are pregnant” was second to the least idealized. The largest differences were for “A pregnant woman would never feel anger towards her unborn baby.” Participants from the current study tended to idealize this idea (second most idealized) while participants from the original study were more realistic (third least idealized). Table 7 shows the relative ranking of items from each study; a ranking of 1 is the least idealized item.

Table 7

*Mean Responses for Idealization of Pregnancy Items from Least to Most Idealized*

Item	Rank	
	Current Study	Original Study
Men find partners' pregnancies stressful.	1	6
Most women feel better emotionally when they are pregnant.	2	2
It is easy for a woman to adjust to the physiological and physical changes of pregnancy.	3	1
A pregnant woman would never feel anger towards her unborn baby.	4	3
Most women who smoke find it easy to quit if they get pregnant.	5	5
Pregnancy is one of the happiest times in most women's lives.	6	8
Men feel closer to their partners during pregnancy than at most other times.	7	7
Most men feel emotionally involved towards their unborn baby.	8	4
The couple relationship usually is closer during pregnancy.	9	9

Almost all women feel love at first sight when they first see their baby.	10	10
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On the Parenting subscale, the top four most idealized items were the same for both studies. Positions were not identical, but were different by no more than one position (e.g., 10th versus 11th most idealized). The biggest difference is in the rank order for the statement “Parents instinctively know how to cope with changes which occur in their lives after the birth of a baby.” Participants in the current study idealized this statement while participants in the original study did not. Table 8 shows the relative ranking of parenthood items from each study.

Table 8

*Mean Responses for Idealization of Parenthood Items from Least to Most Idealized*

Item	Rank	
	Current Study	Original Study
Becoming a mother need not change a woman’s life very much.	1	3
Becoming a father need not change a man’s lifestyle very much.	2	5
You don’t have to learn how to be a competent parent; it just comes naturally.	3	7
Childless couples tend to end up lonely and unhappy.	4	1
Having a baby makes a marriage complete.	5	4
Having children usually improves the couple’s relationship.	6	6
Parents instinctively know how to cope with changes which occur in their lives after the birth of a baby.	7	2
Parenting is almost always enjoyable.	8	9
Most men don’t resent the attention their partners give the baby.	9	8
Children will turn out well if they have caring parents.	10	11

It is very unusual for a parent to feel angry enough to want to physically hurt their young baby.	11	10
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Evidence for the criterion validity of the PPS can be seen in the similarity in the item rankings between the original study and the current study. Although certain items such as “Men find partners’ pregnancies stressful” ranked fairly differently on the two rank-ordered lists, 15 of 21 items were ranked within two places of their original ranking. In the original study, when statistical differences by sex were seen, they were in the direction of males being more idealistic. Likewise, in the current study, differences by sex were in the direction of males being more idealistic.

The original researchers concluded that between 1/4 and 1/3 of Australian adolescents held idealistic or romanticized views of pregnancy and parenting. In the current study, participants returned responses that averaged more than 3.00 for 9 of 21 items, indicating a somewhat romanticized viewpoint.

## DISCUSSION

### **Reliability and Validity**

**Reliability.** The results of this study find the Pregnancy and Parenthood scale to have reliability for the current sample similar to the reliability found in the original development and validation study. Although it does not reach the .80 ideal, the reliability coefficient is moderately strong.

**Construct validity.** Condon, Donovan, and Corkindale employed factor analysis to collect evidence for the two theorized underlying constructs in the PPS – (1) Idealization of Pregnancy and (2) Idealization of Parenthood. The sample size of the current study did not allow a confirmatory factor analysis to be conducted. The moderate correlation between the subscales does provide some confirmation of two separate constructs.

**Criterion validity.** The rank ordering of items in terms of romanization was similar for the current study and the original study. Differences in rank ordering for some items may represent actual developmental differences, cultural differences, or differences between a largely Catholic population and a largely Protestant population.

**Other evidence of validity.** Item analysis shows that many of the items function extremely well at discriminating among respondents. The cognitive level required to adequately understand each item is appropriate for high school and college students. The PPS contains an adequate number of items in each subscale to make reasonable inferences about a respondent's level of idealization for pregnancy and parenthood. There are no glaring omissions that might skew inferences about respondents based on their ratings. There are no actions that can be taken involving the participants in this study since identifying information was not collected. Both the content (Cureton, 1951) and consequential validity (Messick, 1989) of the instrument appear to be adequate.

### **Limitations of the Current Research**

Several limitations exist for the current study. First, the participant pool was not racially diverse. Even though an explicit item asking participants to identify their race was not included in the instrument, responses from the ethnic identity item suggests that well over 80% of the participants were White, which is similar to the university population, which is 83% White.

Nearly 65% of the participant pool was Protestant. The PewResearch Center (2014) indicates that the percentage of Protestants in the US is well below 50%. Results may not be generalizable to universities with larger populations of non-Protestants. Likewise, results may not be generalizable to students at private colleges, two-year post-secondary institutions, or public universities outside of the Southern US. The most serious limitation of the study was that the sample size was insufficient to perform a confirmatory factor-analysis. A test-retest design could have provided additional evidence of reliability.

### **Implications for Future Research**

The current research did not yield the results necessary to unconditionally recommend the PPS as a standalone instrument for assessing the idealization of pregnancy and parenthood for college students in a public institution of higher learn. The results were strong enough to suggest it may be useful as a part of a battery of assessments to evaluate views on the topic.

Further research could reasonably expect to produce an even stronger instrument. Items with point-biserials under .20 could be replaced with newly validated items that would contribute to the overall reliability of the instrument. Items that are sensitive to developmental levels might also be replaced with items less affected by those changes. A good candidate for removal is the item “Men find partners’ pregnancies stressful,” which had a low point-biserial, had low means (indicating a lack of idealization), had a relatively small standard deviation, was the only negatively worded item, and was the item which was ranked most disparately in the current versus the original study.

Such an improved instrument could be validated for pre-adolescents, adolescents, college students, vocational students, and those who become pregnant during adolescence. The availability of that instrument could lay a foundation for longitudinal studies that could establish any predictive ability the instrument may provide. Such information could then be used to identify not only adolescents who are at risk for pregnancy, but also suggest the type of interventions those adolescents require. For example, for adolescents who hold romanticized views of pregnancy and parenthood learning realistic information, perhaps from adolescents who are parents, may prove to be more effective than teaching birth control or abstinence.

The concept of idealization should be further refined and studied. A refined and validated version of this instrument could be given to parents in an age-matched sample to contrast and compare opinions of those who have yet to become parents and those who have already had the experience. Those differences would seem to be the best foundation for refining and operationalizing the concept.

### **Conclusion**

The PPS holds promise as a starting point for future research. Many of the items function very well, correlating well with the overall score for the scale. The reliability as measured by Cronbach's  $\alpha$  suggests that further refinement could be easily achieved. A refined and further developed PPS could be used to contribute to a better understanding of idealization as a risk factor for adolescent pregnancy.

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## APPENDICES

**Appendix A**

## Consent Form

1. Study title: Pregnancy and Parenting
2. Data Collection Sites: Killian Building and Reid Gymnasium Building on Western Carolina University Campus
3. Investigator: Laurie Stroupe (828) 226-9281  
lpstroupe1@catamount.wcu.edu
3. Study Supervisors: Dr. Winford Gordon (828) 227-3361 wgordon@wcu.edu  
Dr. Candace Boan-Lenzo (828) 227-3369 cboan@wcu.edu
4. Purpose of study: The purpose of the study is to validate a questionnaire concerning opinions of pregnancy and parenthood for college students. Additionally, any connection between religiosity and these opinions will be studied.
5. Participant inclusion: This study will include up to 500 volunteers
6. Participant exclusions
  - a. Anyone who does not wish to participate
  - b. Anyone not at least 18 years of age
  - c. Anyone who is married
  - d. Anyone who has been pregnant, has fathered a pregnancy, or has parented children, including stepchildren
7. Description of study: Participants will answer a series of questions presented on Qualtrics™, an internet-based survey program. There are 21 questions related to pregnancy and parenthood, 5 questions

related to religion, and 7 demographic questions. The questionnaire should take approximately 20 minutes to complete.

8. Benefits: The results may provide a tool for researchers who are interested in studying early pregnancy and parenthood.
9. Risks: No risks are anticipated.
10. Alternatives: This study does not include an alternative protocol or treatment.
11. Removal: After completing the questionnaire, participants have fulfilled their requirements.
12. Right to refuse: You may choose not to participate at any time.
13. Privacy: Your name will not be published with the results of this study.
14. Release of information: There is no need to release any information.
15. Financial information: There will be no cost for participation in this study.

Signatures:

The study has been discussed with me and my questions have been answered. I understand additional questions regarding the study should be directed to the investigator listed above. I understand that the data collected will not be used for any purpose not approved by the IRB. I understand that I may direct questions about my rights as a participant in this study to the WCU IRB Chair at (828) 227-7212. I am at least eighteen years of age. I agree with the terms above and acknowledge that I have been given a copy of this consent form.

Signature of volunteer: \_\_\_\_\_ Date: \_\_\_\_\_

Witness: \_\_\_\_\_ Date: \_\_\_\_\_

Investigator(s): \_\_\_\_\_ Date: \_\_\_\_\_

## Appendix B

### Study Instrument

The following section contains 21 statements about pregnancy and parenthood. Choose one answer for each item that indicates how much you agree or disagree with the statement. Please answer all items. If you are unsure about your answer, make your best judgment (Available responses: Strongly disagree, Disagree, Neither agree nor disagree, Agree, Strongly agree).

It is easy for a woman to adjust to the psychological & physical changes of pregnancy.

Most women feel better emotionally when they are pregnant.

A pregnant woman would never feel anger towards her unborn baby.

Most men feel emotionally involved towards their unborn baby.

Most women who smoke find it easy to quit if they get pregnant.

Men find partners' pregnancies stressful.

Men feel closer to their partners during pregnancy than at most other times.

Pregnancy is one of the happiest times in most women's lives.

The couple relationship usually is closer during pregnancy.

Almost all women feel love at first sight when they first see their baby.

Childless couples tend to end up lonely and unhappy.

Parents instinctively know how to cope with changes which occur in their lives after the birth of a new baby.

Becoming a mother need not change a woman's lifestyle very much.

Having a baby makes a marriage complete.

Becoming a father need not change a man's lifestyle very much.

Having children usually improves the couple's relationship.

You don't have to learn how to be a competent parent, it just comes naturally.

Most men don't resent the attention their partners give the baby.

Parenting is almost always enjoyable.

It is very unusual for a parent to feel angry enough to want to physically hurt  
their young baby.

Children will turn out well if they have caring parents.

The following section contains 2 statements about religious practices. Please mark the frequency in which you participate in each type of activity. (Available responses: Rarely or never, Once a year or less, A few times a year, A few times a month, Once a week, More than once a week).

How often do you attend church or other religious meetings?

How often do you spend time in private religious activities, such as prayer,  
meditation or Bible study?

The following section contains 3 statements about religious belief or experience. Please mark the extent to which each statement is true or not true for you (Available responses: Definitely not true, Tends not to be true, Unsure, Tends to be true, Definitely true of me)

In my life, I experience the presence of the Divine (i.e., God).

My religious beliefs are what really lie behind my whole approach to life.

I try hard to carry my religion over into all other dealings in life.

The following section contains 7 questions about you that will be used to assist in the analysis of the data collected for this research. Please remember that your name is not associated with your questionnaire and that no individual information will be reported. It is important that this section be completed accurately.

What is your sex? (Available responses: Female, Male)

What is your age? (Available responses: 18, 19, 20, 21, 22, 23 or older)

Do you identify with an ethnic group? (Available responses: Hispanic/Latino,

Other – Please specify below, None)

Ethnic group with which you identify. (Space was provided to type in a response).

Which of the following best describes your religious beliefs? (Available responses: Agnostic [skeptical about the existence of a supreme deity, e.g., God, Allah, Brahman], Atheist [there is no supreme deity], Buddhist, Catholic, Hindu, Jewish, Mormon, Muslim, Protestant [Baptist, Lutheran, Presbyterian, Methodist, Church of God, etc.], Other – please specify below.)

Religion with which you identify (Space was provided to type in a response.)

Have you ever been pregnant or fathered a pregnancy, whether or not that pregnancy was carried to term, or have you ever parented children, including stepchildren? (Available responses: Yes, No)

Are you now, or have you ever been, married? (Available responses: Yes, No)

#### About This Study

The current study is an attempt to validate an existing scale on idealistic attitudes toward pregnancy and parenthood for an American college population. The scale was originally created and validated with a population of Australian high school students. The questions about religion were asked in an attempt to determine whether people who are more religious also have more idealistic views of pregnancy and/or parenthood. You were asked about your personal involvement with pregnancy based on the theory that people who have experienced pregnancy may have a different point of view than those who have not.

If you have any further questions or concerns about this questionnaire, please contact Laurie Stroupe at [lpstroupe1@catamount.wcu.edu](mailto:lpstroupe1@catamount.wcu.edu).

**Appendix C**

## Tukey's HSD for Items by Age

**The couple relationship usually is closer during pregnancy.**

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	N	1	2
18	85	3.21	
19	27	3.44	3.44
20-22	13		3.85
Sig.		.561	.182

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## Appendix D

### Tukey's HSD for Items by Religious Affiliation

#### Parents instinctively know how to cope with changes which occur in their lives after the birth of a child

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	N	1	2
Non-believers	18	2.17	
Other	7	2.29	2.29
Catholic	19	2.74	2.74
Protestant	81		3.04
Sig.		.325	.116

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#### Most men don't resent the attention their partners give the baby.

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	N	1	2
Other	7	2.57	
Non-believers	18	2.78	2.78
Catholic	19	3.11	3.11
Protestant	81		3.42
Sig.		.176	.071

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