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Preliminary Analyses of Three Measures of Grace: Can They be Unified?

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Grace is an interesting and potentially significant domain within positive psychology, but remains largely neglected. The present study examined the relationships among three known grace scales to evaluate the potential for creating a stronger single measure. It also explored their relationships to several other religious/spiritual measures to examine whether the three scales are measuring the same construct, to explore the implications for our understanding of grace, and to provide insights for further study. The three measures had moderately strong correlations with each other ($r = .55$ to $.66$), had similar relationships to other measures of religion/spirituality, and had distinct relationships to measures of psychological health and distress. This suggested that the three scales measure somewhat different constructs. Two grace scales showed significant negative skew, indicating ceiling problems. Differences in the underlying grace constructs, contamination by other concepts, or an underlying multidimensional structure for grace could account for these differences. Further study should better articulate the constructs underlying grace

measures, address problems related to negative skew in responses, and clarify whether grace is multidimensional.

Half a century ago, Norman Rockwell's illustration on the cover of the *Saturday Evening Post* (November 24, 1951), *Saying Grace*, captured the interest of the American public. More recently, millions have viewed the movie *Amish Grace* (Thompson & Champion, 2010) that portrays the spirit of gracious forgiveness that marked the Amish community's response to the killing of Amish school-girls in Nickel Mines, Pennsylvania in 2006. Yet grace has received little attention among psychologists, even within the positive psychology movement (e.g., Peterson & Seligman, 2004). The latter is a bit surprising given that interpersonal grace, such as shown by the Amish, can certainly be considered a significant human virtue.

These examples reflect two dimensions to the idea of grace in Christian thought and practice. "Saying grace" is really a euphemism for thanking God for showing redemptive grace and providing food and other daily needs—it is, in that sense, a relative of gratitude. *Amish Grace* illustrates the human potential to enact grace to others. A number of writers have discussed grace (e.g., Dudley, 1995; Gowack, 1998; McKee, 1998; McMinn, 2008; Wahking, 1992; Watson, 1969), and it has been included as a variable in a couple of studies (e.g., Ratanasiripong, 1997; Schaefer, 1999). However, efforts to measure grace have so far

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been surprisingly limited. To effectively study grace a suitable measure seems essential. The following will describe the construct of grace, measures of grace, and the purpose of the present study.

The Grace Construct

Grace is a theme of both Old and New Testaments. The doctrine of God's grace, which is largely unique to Christian thought, draws from the unmerited kindness of "the God of all grace" (1 Peter 5:10, New American Standard Bible). Christian theological discussions of grace distinguish several types of grace. A basic distinction is between *common grace* and *special grace* (Hughes, 2001; McMinn, Ruiz, Marx, Wright, & Gilbert, 2006). Common grace includes such things as the passing of the seasons, sunshine and rain, production of food and materials for clothing and shelter, and the restraint on evil and lawlessness; these forms of grace affect all persons. "Special grace is the grace by which God redeems, sanctifies, and glorifies his people" (Hughes, 2001, p. 520). According to Hughes, special grace is further distinguished in terms of *prevenient* grace—the belief that God acts first in saving his people; *efficacious* grace—the notion that grace accomplishes the divine purpose; *irresistible* grace—the principle that grace cannot be refused; and *sufficient* grace—the idea that grace is able to save, preserve, and transform one in earthly life and successfully bring one into the heavenly kingdom.

From a somewhat different perspective, grace is related to the gospel (Colossians 1:5–6), salvation (Ephesians 2:8–9), justification (Romans 3:23–24), sanctification (Romans 6:11–16), and spiritual gifts (Romans 12:4–18; 1 Corinthians 12). Further, according to Trotter (1996), grace is attributed to all three members of the Trinity: Father (e.g., Romans 5:15; Ephesians 2:8), Son (Romans 5:15; Ephesians 4:7; 2 Corinthians 13:14), and Holy Spirit (Romans 12:4–18; Hebrews 10:29).

These distinctions reflect the context and purpose of action for grace at specific points. Underlying them, however, is the fundamental notion that grace reflects divine action. The distinctions reflect the various points in an individual's life and the specific ends toward which divine grace acts in light of his or her current relationship with God.

Grace may also be manifested by humans acting in the power of the Holy Spirit—for example, in the offering for those in Judea (2 Corinthians 8:1–3) or in the exercise of spiritual gifts (Romans 12). Peter refers to humans as "stewards of the grace of God" (1 Peter 4:10). Similarly, Paul connects the grace of God with human responsibility (e.g., Romans 15:16). The grace

of God through the Holy Spirit provides the power with which humans perform their gifted tasks.

Graciousness, or enacted grace, is exhibited when we treat others are treated with grace similar to that which we receive from God; it is wonderfully illustrated in the Amish response to the atrocity committed against their children. For Christians, grasping what one has received by grace from God should lead to a life of exercising graciousness toward others. However, enacting of this grace is not a given many who profess faith in God as gracious do not do well in internalizing and enacting the significance of the same (Blackburn, Sisemore, Smith, & Re, 2012). To become a virtue, grace in the Christian sense requires responding to others in a manner that mirrors the perception of grace from God. In this way, we enact the human virtue of grace, "doing unto others as God has done unto us," so to speak. As such, grace merits more attention than it has received, especially given the rich implications it may have as manifested in graciousness toward others.

Measuring Grace

One of the challenges to the investigation of grace from a psychological perspective is finding ways to measure it. Watson, Morris, and Hood (1988a, b) were the first to begin exploring how to best define and measure grace as a psychological construct. Several more recent studies have attempted to consider "relational grace" as grace shown by one romantic partner to another (Beckenbach, Patrick, & Sells, 2010; Patrick, Beckenbach, Sells, & Reardon, 2013; Sells, Beckenbach, & Patrick, 2009), but lack of adequate definition and measurement of grace have hampered their project.

Recently, three additional grace measures have been independently developed. Each has been used in one or two studies that demonstrated promising results. First, the Grace Scale (GS) was developed by Bufford and colleagues (Payton, Spradlin, & Bufford, 2000; Spradlin, 2002). Second, the Richmond Grace Scale (RGS) was developed by Sisemore (Blackburn et al., 2012; Sisemore et al., 2011; Watson, Chen, & Sisemore, 2011). Third, Bassett and his colleagues developed The Amazing Grace Scale (TAGS; Bassett et al., 2012; Bassett & Roberts Wesleyan Research, 2013).

According to Spradlin (2002),

Grace is seen as an essentially relational construct. In the model, grace is the healthy alternative to legalism, which demands perfection and is doomed to failure in a relational context. Grace is described as a pattern of forgiveness and acceptance based on God's unmerited favor for us as humans. (p. 2)

Spradlin (2002) found the Grace Scale (GS) had adequate internal consistency, expected correlations with demographic items, and no gender effect. Grace and shame were moderately negatively correlated, while grace and spiritual well-being were moderately positively correlated. Shame accounted for 28% of the variance in the GS; the negative loading suggested that shame and grace are to some degree opposites as hypothesized.

Sisemore and colleagues (Sisemore, Killian, & Swanson, 2006; Sisemore et al., 2011; Watson et al., 2011) finalized the development of the Richmond Grace Scale (RGS). Drawing from a pool of items suggested by Christian college and graduate students, they refined the items to reflect commonly held aspects of God's grace toward humans. The scale was refined from its first items over the course of several studies to the item list in Watson et al. (2011). In these studies, Sisemore and colleagues found it to be inversely related to anxiety, depression, and an index of personality pathology. Christians who were receiving counseling services reported lower levels of grace and higher levels of distress than Christians not engaged in counseling. They also found the RGS to correlate positively with an intrinsic religious orientation. Blackburn et al. (2012) reported that grace was positively related to both attitudes both of forgiveness and of hopefulness. It was also related to age, suggesting that grace may increase with age and experience.

The Amazing Grace Scale is most recent (Bassett et al., 2012; Bassett & the Roberts Wesleyan Psychology Research Group, 2013). In a series of studies, Bassett and colleagues identified 16 items which loaded on two orthogonal factors—Grace_{identified} and Grace_{awareness}. Using simultaneous entry regressions, they found that identified faith loaded on their short version of the Christian Religious Internalization Scale (CRIS; Ryan, Rigby, & King, 1993). Gratitude, as measured by the Gratitude Questionnaire-Six Item Form (GQ-6; McCullough, Emmons, & Tsang, 2002), predicted the first factor, while identified faith, intrinsic faith, and Christian identity predicted the second factor. No relationship was found for the TAGS and extrinsic social faith.

In their second study, Bassett and colleagues found that a short version of the TAGS (16 items) was significantly and positively related to Christian identity, extrinsic personal faith, intrinsic faith, empathic concern, forgiveness of others, situational forgiveness, gratitude, and a short version of the GS that omitted the negatively worded items. The short TAGS did not correlate significantly with self-forgiveness in this study. In the final study, Bassett and colleagues found an alpha of .94 for the TAGS. No relationship was

found between the TAGS and a religious legalism measure developed for use in this study or with the Quest orientation. However, significant relationships were again found with Christian identity, extrinsic-personal faith, intrinsic faith, and CRIS identified faith.

Research Question

The present study provides a first step toward efforts to combine the items of these three preliminary grace scales to develop and validate a better grace measure. It explores whether the three scales are measuring the same or different constructs and compares their validity using concurrent measures and demographic information.

Methods

Participants and Procedures

For this study, volunteers were solicited from introductory psychology courses at George Fox University, Roberts Wesleyan College, and the University of Tennessee at Chattanooga (UTC), and from graduate courses at Richmond Graduate University. Participants were drawn from three diverse areas of the United States: the Northeast, Northwest, and Southeast. Participants were invited to complete an internet survey provided using *Survey Monkey*. No personally identifying data were gathered. Participants may have received academic credit for research participation in this or alternative studies in their respective institutions. The study was approved by the George Fox University Human Subjects Research Committee and the Richmond Graduate University Institutional Review Board.

A total of 152 participants responded; of these, 23 provided incomplete data, mostly in the demographic items. Due to the modest sample size, pairwise deletion was used for all analyses. Ethnically, participants were primarily Caucasian (83%); a few were African-American (11%), Asian (1.3%), and Hispanic (1.3%). Participants were predominantly female (110 women, 41 men). Participants were also mostly Christian (88%); a few reported no religious affiliation (4%), or that they were agnostic (2%), Muslim (.7%), and atheist (.7%). In response to the Dawkins question on atheism, 62% indicated "I know God exists," 25% indicated strong belief that God exists, while 12% were less confident or expressed the conviction that God does not exist; two participants did not respond to this item.

Materials

Materials included a demographic questionnaire, the Grace Scale, the Richmond Grace Scale, The Amazing Grace Scale, the Spiritual Well-Being Scale, the Grati-

tude Questionnaire-6, the Brief RCOPE, the Internalized Shame Scale, the ACORN, and the Adverse Childhood Experiences Scale. Each of these will be discussed in turn. While the choices of concurrent measures were somewhat arbitrary, they allow concurrent validation with both commonly used measures of religion/spirituality and with measures of psychosocial functioning.

Demographic questionnaire. The demographic questionnaire gathered data on age, education, gender, ethnicity, religious affiliation, frequency of attendance at religious services, frequency of engagement in personal religious activities (devotions, prayers, or rituals), life satisfaction, importance of religious beliefs and practices, and degree of belief in God.

Grace Scale. The Grace Scale (GS) was developed by Spradlin (2002). Based on preliminary work by Payton et al. (2000) with a 20-item grace measure, 20 additional items were created, in part because alpha was only .64 in the earlier version. Little is reported about how the items were developed, but they appear to have been shaped by Baptist and possibly Quaker sensitivities.

The resulting 40-item measure of the experience of grace collected responses on a 7-point Likert continuum from *Strongly Agree* to *Strongly Disagree*. The GS showed adequate internal consistency ($\alpha = .83$), correlated in expected ways with demographic items, and showed no gender differences. A multiple regression showed that grace was inversely related to shame, which accounted for 28% of the variance; 31% of the variance on the GS was accounted for when religious well-being was added (Spradlin, 2002; Spradlin, Buford, & Thurston, 2011). None of the demographic items added further variance. Alpha for GS in the present study was .73.

The Richmond Grace Scale. The Richmond Grace Scale (RGS) was developed in a series of studies by Sisemore and his colleagues (Sisemore et al., 2006; Sisemore et al., 2011; Watson et al., 2011). They began with four items developed by Watson et al. (1988a, b). The history of the scale's development is traced above; the resulting RGS is a 27-item measure of the experience of grace developed independently of the Grace Scale. It has shown promise in terms of both adequate internal consistency ($\alpha = .84$; Watson et al., 2011) and expected convergent and divergent validity (Blackburn et al., 2012; Sisemore et al., 2011; Watson et al., 2011). Watson et al. (2011) found four factors: graceful forgiveness orientation, grace and responsibility, graceful avoidance of personal legalism, and graceful

avoidance of interpersonal legalism. Alpha in the present study was .93.

The Amazing Grace Scale. The Amazing Grace Scale (TAGS) is a third measure of grace, developed by Bassett and colleagues (Bassett et al., 2012; Bassett & the Roberts Wesleyan Psychology Research Group, 2013). In preliminary work, the TAGS originally consisted of 42 items and was designed with the idea of four underlying conceptual dimensions: internalization of faith, gratitude, understanding grace, and transformed life (Bassett & the Roberts Wesleyan Psychology Research Group, 2013). All items were stated in a positive direction (no items were reverse scored). Factor analysis yielded two factors which loaded a total of 16 items: grace identified (9 items, $\alpha = .91$) and grace awareness (7 items, $\alpha = .86$). In their most recent research study, Bassett and the Roberts Wesleyan Psychology Research Group, 2013 the TAGS as a 16-item scale with responses on a 6-point Likert continuum from *Strongly Agree* to *Strongly Disagree* with no mid-point. For the present study, a 7-point Likert continuum was used to provide the same response alternatives as the other grace measures.

The 16-item TAGS has shown good internal consistency ($\alpha = .94$) and generally strong correlations with other measures. It was positively correlated with intrinsic religious orientation, extrinsic-social orientation, empathy, forgiveness, and gratitude, but not with the Quest orientation. Surprisingly, the TAGS was not significantly related to a measure of legalism. Alpha in the present study was .97.

Spiritual Well-Being Scale (SWB). The SWB is a 20-item scale that measures spiritual well-being in terms of a vertical dimension involving relationship with God (Religious Well-Being or RWB) and a horizontal dimension involving relationship with others and with the world around us (Existential Well-Being or EWB). It is one of the most widely used measures of religion/spirituality with extensive support for reliability and validity (Ellison, 1983; Paloutzian, Bufford, & Wildman, 2012; Paloutzian & Ellison, 1982). We expected grace to be positively correlated with SWB (Spradlin, 2002). Alpha in this study was .92 for SWB, .94 for RWB, and .86 for EWB.

Gratitude Questionnaire-6 (GQ-6). The GQ-6 is a six-item self-report questionnaire developed to measure a grateful attitude in adults (McCullough et al., 2002). Gratitude is conceptualized as an emotion (McCullough et al., 2002); a virtue (Emmons, 2004);

and as a moral motive, barometer, and reinforcer (McCullough, Kilpatrick, Emmons, & Larson, 2001). Gratitude is related to generosity, compassion, and relationship quality (McCullough et al., 2002; Wood, Joseph, & Maltby, 2009). Item six has been found to be problematic and has been omitted from some studies (e.g., Froh et al., 2011). We expected grace and gratitude to be positively correlated. Alpha in this study was .82 for all six items.

Internalized Shame Scale (ISS). The Internalized Shame Scale is a 30-item self-report measure of shame. It has demonstrated adequate internal consistency and provides a face-valid measure of shame (Cook, 1987). Based on prior research (Spradlin, 2002), we expected grace and shame on the ISS to be inversely related; this hypothesis is further supported by Tangney's work with a different shame measure (Tangney, 1996; Tangney & Fischer, 1995; Tangney, Miller, Flicker, & Hill-Barlow, 1996; Tangney, Wagner, Hill-Barlow, Marschall, & Gramzow, 1996). Alpha in this study was .96.

Brief RCOPE. The RCOPE is a measure of the degree to which individuals use religious coping strategies (Pargament, Koenig, & Perez, 2000). Religious coping has been found to be a preferred form of coping for many individuals in the U.S. The Brief RCOPE is a shorter version that preserves the original two dimensions of positive and negative religious coping, and is now the most commonly used measure of religious coping (Pargament, Feuille, & Burdzy, 2011). We expected grace to correlate positively with RCOPE Positive and negatively for RCOPE Negative. Alpha in this study was .93 for RCOPE Positive and .87 for RCOPE Negative.

Adverse Childhood Experiences Scale (ACE). The ACE (Felitti et al., 1998) is a 10-item list of adverse events that many individuals experience during childhood. This scale could be considered an indicator of the extent to which participants experienced the opposite of grace during childhood. The scale includes yes/no responses to items about emotional neglect, physical and sexual abuse, etc. Felitti et al. (1998) found depression, suicide attempts, repeated medical complaints, substance abuse, cancer, HIV positive status, and a variety of adult illnesses were powerfully related to such adverse childhood experiences. For example, those with four or more adverse experiences were about 6 times as likely to use IV drugs as those with none or one (Felitti et al., 1998). Alpha in this study was .81. In this administration, item eight was reverse-scored rather than reverse-scored.

ACORN Scale. The ACORN is a short measure of global distress used to measure outcomes of mental health treatment. Approximately 100 items are used interchangeably due to their high internal consistency. In practice 10–15 items are commonly used. Mean item scores are reported so scores are independent of the number of items employed (Brown & Minami, 2009; Minami, Brown, McCulloch, & Bolstrom, 2012; Minami et al., 2008). For this study, a 14-item version formerly adopted by Western Psychological and Counseling Services was used. We expected grace to be negatively related to global distress as measured by the ACORN (Watson et al., 2011). Alpha in this study was .91.

Results

Alpha coefficients and descriptive data for all measures for the sample are reported in Table 1. All measures showed adequate internal consistency. Alpha was .73 for the GS and above .80 for all other measures. The TAGS and GQ-6 showed significant negative skew, while the RCOPE Negative scale showed significant positive skew. Significant positive kurtosis was found for these same scales and for both the RCOPE Positive and ACORN. On the GS, no participant had a mean item score greater than 5.55. In contrast, on the RGS 10.9% of participants had mean items scores of 6.5 or greater, while on the TAGS 23.9% of participants had mean item scores of 6.5 or greater. Figure 1 shows item-response distributions for the three grace measures and illustrates the impact of skew on the TAGS distribution.

Correlations among the grace measures, and between them and other measures in the study, are reported in Table 2. Correlations among the grace measures ranged from .55 to .66 and were all highly significant. All three grace measures correlated significantly and positively with the EWB, RWB, and SWB. They also all correlated significantly and positively with both the GQ-6 scale and RCOPE Positive. For the RCOPE Negative and the Internalized Shame Scale both the GS and RGS correlated significantly and negatively, but the TAGS was not related. Finally, only the GS was significantly and negatively correlated with scores on the ACE and ACORN; results were not significant for the RGS and TAGS for these measures.

Analysis of variance found no gender differences for any of the grace measures. However, women scored higher than men on the RCOPE Negative scale ($F_{1, 138} = 4.80, p = .03$). Similarly, no differences related to ethnic background were found for any of the

TABLE 1
Internal Consistency and Descriptive Results for Research Measures

Scale	Alpha	<i>M</i>	<i>SD</i>	Skew	Kurtosis
Grace Scale (40 items)	.73	182.89 4.57*	19.64 0.49*	-0.28	-0.60
Richmont Grace Scale (27 items)	.93	149.04 5.52*	25.63 0.95*	-0.73	-0.16
The Amazing Grace Scale (16 items)	.97	82.36 5.49*	19.56 1.30*	-1.12	1.03
Internalized Shame Scale	.96	97.95	33.85	0.49	0.04
Spiritual Well-Being	.92	92.10	16.98	-0.38	-0.64
Religious Well-Being	.94	45.94	11.69	-0.97	0.53
Existential Well-Being	.86	45.85	8.08	-0.23	-0.61
Brief RCOPE					
RCOPE Positive	.93	20.08	5.81	-0.57	2.72
RCOPE Negative	.87	11.77	4.64	1.25	1.71
Adverse Childhood Experiences Scale	.81				
Gratitude Questionnaire-6	.82	36.13	6.27	-1.43	2.72
ACORN	.91	2.49	0.72	0.69	1.31

Note. *Mean item scores and SDs are reported to facilitate comparison of item responses among grace scales.

FIGURE 1
 Distribution of Mean Item Scores for the Three Grace Scales

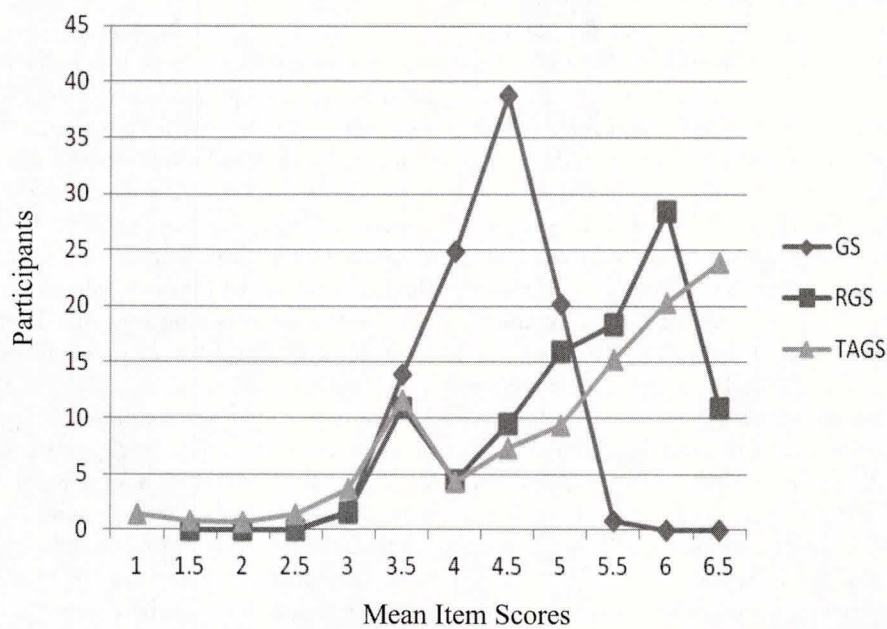


TABLE 2

Correlations of Grace Measures with Each Other and with Additional Scales

Measure	Grace Scale	Richmont Grace Scale	Amazing Grace Scale
Richmont Grace Scale	.66**		
The Amazing Grace Scale	.55**	.65**	
Internalized Shame Scale	-.56**	-.32**	-.14
Religious Well-Being	.57**	.65**	.79**
Existential Well-Being	.55**	.48**	.44**
Spiritual Well-Being	.65**	.68**	.77**
Gratitude Questionnaire-6	.38**	.42**	.38**
RCOPE Positive	.45**	.60**	.80**
RCOPE Negative	-.37**	-.32**	-.09
Adverse Childhood Experiences Scale	-.24**	.17	-.04
ACORN	-.37**	-.09	-.10

Note. *N* ranged from 129 to 144.

** $p < .01$, two-tailed.

grace measures. However, a significant main effect was found for gratitude ($F_{1,138} = 11.01, p = .001$).

Analyses of variance found significant main effects for all three grace measures on the single demographic item on religious affiliation ($F_{4,119} = 4.85, p = .001$; $F_{1,124} = 4.18, p = .003$; $F_{4,125} = 17.78, p < .001$) for the GS, RGS, and TAGS respectively. Significant main effects were also found for all three grace measures on the single demographic item of Christian profession ($F_{3,125} = 10.59, p < .001$; $F_{3,133} = 18.40, p < .001$; $F_{3,134} = 52.61, p < .001$) for the GS, RGS, and TAGS respectively.

Significant main effects were found for all three grace measures on the Dawkins atheism scale ($F_{2,126} = 14.32, p < .001$; $F_{32,134} = 12.70, p < .001$; $F_{3,134} = 52.61, p < .001$) for the GS, RGS, and TAGS respectively. For this item, response ratings of 3 or higher were combined; 87 participants responded 1, indicating they "know God exists"; 32 participants responded 2, indicating they "strongly believe" God exists; 19 responded 3 or higher, indicating doubt in the existence of God to strong certainty that "there is no God." Post hoc Scheffe tests indicated that the third group scored lower on the GS and RGS measures than the first two groups which did not differ significantly ($1 = 2 > 3$); for the TAGS scale all three groups differed significantly ($1 > 2 > 3$). See Table 3.

Finally, we explored the relationship between scores on the grace measures and reported adverse childhood

experiences. Because the ACE is intended as more of an ordinal than an interval measure, analyses of variance compared grace scores for those reporting 0, 1, 2, 3, 4, and 5 or more adverse experiences. RGS and TAGS scores did not differ among these groups, but a modest effect was found for the GS scale ($F_{5,107} = 2.43, p = .040$), but post hoc tests were not significant. Table 4 reports these results.

Discussion

All three grace measures showed adequate internal consistency, although the Grace Scale was weaker in this respect. Item-total correlations suggest some of the items may not belong for this measure, and perhaps do not fit the construct of grace. Alternatively, more than one dimension of grace may be present. The three grace measures are significantly and strongly correlated, but their correlations with other study measures suggest that they may be measuring somewhat different underlying constructs. At most, the three scales share about 44% of common variance.

The Grace Scale was significantly correlated with all other measures, including positive correlations with religious, existential, and spiritual well-being; gratitude; and positive religious coping. Negative correlations were found with internalized shame, negative religious coping, childhood adversity, and symptoms of psychological distress. These results are consistent with Spradlin (2002) and with our expectations; they

TABLE 3

Item Means, Standard Deviations, Group Differences, and Significance for Grace Scales and Dawkins Atheism Item (Belief in God)

Measure	<i>M</i>	<i>SD</i>	<i>df</i>	<i>F</i>	Sig.
Dawkins Atheism					
GS					
Know God Exists	4.71	0.46	2, 110	14.39	< .001
Strongly believe God Exists	4.49	0.40			
Other	4.08	0.45			
All	4.57	0.50			
RGS					
Know God Exists	5.74	0.85	2, 110	10.61	< .001
Strongly believe God Exists	5.39	0.94			
Other	4.67	0.88			
All	5.51	0.95			
TAGS					
Know God Exists	5.98	0.83	2, 110	39.47	< .001
Strongly believe God Exists	5.17	1.30			
Other	3.51	1.46			
All	5.44	1.36			

TABLE 4

Means, Standard Deviations, Group Differences, and Significance for Grace Measures, and ACE Scores

Measure	<i>M</i>	<i>SD</i>	<i>df</i>	<i>F</i>	Sig.
GS	4.57	0.50	5, 107	2.43	.04
RGS	5.51	0.95	5, 107	0.90	<i>ns</i>
TAGS	5.44	1.36	5, 107	0.46	<i>ns</i>

Note. *ns* = not statistically significant.

provide convergent and divergent validation for this grace measure.

The Richmond Grace Scale showed similar correlations except that the relationships with childhood adversity and symptoms of psychological distress were not significant. The Amazing Grace Scale was somewhat more strongly related to religious well-being and positive religious coping than the other grace scales—consistent with findings of Bassett and the Roberts Wesleyan Research Group (2013)—but did not correlate significantly with internalized shame,

negative religious coping, childhood adversity, or symptoms of psychological distress.

Skew indicates that a group of scores is not normally distributed. It describes distortion in the distribution on the right to left dimension on a typical graphical scale. Positive skew indicates scores are less variable (or “clump together”) at the low end of the distribution, while negative skew indicates scores are less variable at the high end of the distribution (Gregory, 2011). In either case, it is difficult to distinguish true differences in a trait for persons who score near that end of the dis-

tribution. For example, the negative skew of the TAGS indicates that many participants scored near the ceiling of the scale. The relatively high mean item score for the TAGS and the large number of participants with mean item scores of 6.5 or greater (ceiling was 7.0) reflects this finding. Somewhat surprisingly, the mean item score for the RGS is similar, but skewness is more moderate and less than half as many participants had mean item scores of 6.5 or greater. The higher variability for the TAGS indicates that, despite the high mean item response, some participants scored quite low on several TAGS items—more so than on the RGS. For the sample as a whole, responses were more variable on the TAGS than on the RGS and much more variable than on the GS. Some participants disagreed strongly with some of the TAGS items.

When using a sample, as we did here, the observed skew describes the response distribution in the sample. However, we are more interested in skew in the population (here, that would include all persons to whom the grace scales might some day be administered). To estimate the likelihood of significant skew in the population, the sample skew statistic is divided by its standard error. In this way we are able to estimate the likelihood of significant skew in the population as a whole. The rule of thumb is that absolute values greater than 2.00 indicate that the population is likely to be skewed. The quotient of $\text{Skew} \div \text{SE-Skew}$ was 5.43 for TAGS, 3.53 for RGS, and 1.21 for GS. It appears quite likely that both the TAGS and RGS will be skewed in the population as a whole as well as in the present sample.

Kurtosis describes the degree to which a distribution is flattened or sharpened (has peaks). It describes distortion in the distribution on the top to bottom dimension on a typical graphical display. Negative kurtosis describes flattening, while positive kurtosis describes sharpening of a distribution. In our data, the distributions of the TAGS and the RGS look fairly in terms of descriptive statistics; however, the TAGS shows more flattening than the RGS and both scales have distributions that are quite different from the distribution of the GS (see Figure 1) and from a normal distribution.

Practically, skew and kurtosis violate the assumptions of a normal distribution that are made in computing most common statistics. The analysis of variance is relatively "robust" in the sense that it is little impaired by modest departures from normality when group sizes are about equal. Mean comparisons may be inaccurate as the group sizes become more varied, however (Lix, Keselman, & Keselman, 1996).

Two important additional problems emerge with skew and kurtosis. First, it is more difficult to detect relationships; that is, correlations become smaller in skewed distributions. In our data, the lack of significant correlations between the TAGS and shame, negative coping, adverse childhood experiences, and psychological distress may in part be due to skew. The second problem is that the ceiling effects related to negative skew may make it more difficult to detect any treatment effects that might increase grace. Thus ceiling concerns arise for both the RGS and TAGS. In contrast, the GS has more room for detecting "growth" in the experience of grace.

Analyses of variance showed no evidence of gender or ethnic effects, though ethnic variability was limited. These findings are encouraging as we hoped that grace would not be associated with gender or race. These analyses also showed expected relationships between scores on the grace measures and religious affiliation, Christian profession, and responses to the Dawkins atheism question. Participants who believe in the existence of God consistently scored higher on the grace measures. These findings provide support for the validity and practical utility of the grace measures. Differences related to religious identification suggest that the grace construct may be distinctively related to Christian beliefs and practices, but this conclusion is tentative due to the limited degree of religious and other diversity in the present sample.

Our finding that only the GS was sensitive to the effects of adverse childhood experiences is interesting, but its relationship to the validity of the measures is not easily interpreted. Could the GS reflect more adequately the adverse effects of these events on participants' experience of grace? Does skew in the TAGS prevent detection of an underlying correlation? At present, we cannot say.

The present sample was predominantly college students, and ethnic diversity was modest. However, on the whole the findings were encouraging. All three grace measures demonstrated adequate internal consistency—the GS was weakest in this regard. All showed correlations in expected directions with concurrent measures, providing support for concurrent validity—here, the GS was stronger than the others. Results of analyses of variance were also generally supportive of the validity of the three grace measures.

Taken together, the present results suggest there may be more than one underlying dimension or construct in the three grace measures. It appears that somewhat different grace constructs may have shaped

the development of the three measures, though the authors of the measures provided relatively little information that bears on this apart from the comments of Bassett and the Roberts Wesleyan Research Group (2013). Alternatively, other constructs may be interwoven inadvertently into the grace measures, as suggested by Bassett and the Roberts Wesleyan Research Group's comment that gratitude formed one dimension of their initial measure. However, the extremely high internal consistency of the final 16-item measure tends to discount this explanation for the TAGS.

A factor analysis of the common item pool for these three measures seems a next step. A much larger sample will be needed, as there are a total of 83 items across the three scales. Nonetheless, it is easy to conclude that the study of grace as a construct, particularly for Christians, is worth more attention. Our initial findings provide strong indications that grace, or graciousness, may play an important role in promoting well-being and mental health in those who enact it as a virtue.

The three grace measures appear to have approached grace as a general construct. This approach may have been theologically naïve, but perhaps it is psychologically sound, as the measures sought to address grace as a holistic rather than an atomistic construct. Further research may shed light on whether this approach is preferred, but similar tensions about the number of dimensions in our constructs of intelligence, personality, and psychopathology persist even after decades of study.

Perhaps we began the exploration of the psychology of grace without adequate consideration of the diversity of theological concerns or even with a bit of theological naiveté. Awareness of a need for deeper theological reflection has emerged as we have advanced into this research, and especially as we have begun to discuss grace more widely. Empirically, differences in correlates of the scales that we reported here raised this concern. While the scales share as much as 44% of common variance, it is clear that they relate differently to psychosocial variables, and each scale has a preponderance of unique variance (at least 56%). Our discussions of these findings with various audiences also have raised concern about the ways in which grace is conceptualized. In future research, our goals will include deeper reflection on the theological nuances of grace and a factor analysis of the combined items of the three grace scales to explore whether grace is a unitary or multi-faceted construct. We will also explore whether we can capture, at a psychological level,

some of the theological distinctions that have been proposed.

Gratitude is a related construct that received much more investigation beginning about 2000 (e.g., Emmons & Crumpler, 2000; Emmons & Kneezel, 2005; McCullough et al., 2002; McCullough, Tsang, & Emmons, 2004; Watkins, Scheer, Ovnicek, & Kolts, 2006; Watkins, Woodward, Stone, & Kolts, 2003; Wood et al., 2009). From the perspective of Christian theology, we propose that gratitude is the proper human response to divine grace. As such, the two constructs are distinct, yet intertwined. Future research could helpfully explore the relationship of these constructs.

As a practical matter, our recommendation is that the 36-item Dimensions of Grace Scale proposed by Bufford and colleagues (Bufford, 2014; Bufford, Sisemore, & Blackburn, 2014) be used for additional grace research at this time. In their research, Bufford et al. (2014) found five factors from the items of the combined measures: experiencing God's grace, costly grace, grace to self, grace from others, and grace to others. These five factors and the proposed related subscales include items from all three grace measures. While results of that research are not yet published, copies of the Dimensions of Grace Scale can be obtained from the authors. It is our understanding that several studies employing the Dimensions of Grace Scale are currently under way.

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