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## Considering Religious Mediators & Moderators of the Dimensions of Grace Scale

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# Considering Religious Mediators & Moderators of the Dimensions of Grace Scale

Dr. Kenneth Logan & Dr. Rodger Bufford



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## Theological Perspectives on Grace

### Concept Distinctions

- Common Grace
- Special Grace
- Saving Grace
- Preventing Grace

### Grace is a complex construct

- This project acknowledges this
- Speaks to the difficulty in studying the concept



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## Psychological Perspectives on Grace

### Parent Scales of DGS

- Different conceptions of grace were used to develop the original scales
- Factor structure of the DGS revealed this

*We anticipate a complex network of relationships with grace dimensions and between grace and other variables*



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## Methods: MEASURES



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## Dimensions of Grace Scale (DGS)

### Grace Categories (DV)

- Experiencing God's Grace  
Experience of God's gracious involvement leading to improvement
- Costly Grace  
Grace requiring believer's effort and an emphasis on behaviors. "Anti-permissiveness" or "Anti-antinomianism"
- Grace to Self  
Graciousness toward self. Not being hard on self, not over-emphasizing faults, acceptance of shortcomings, able to receive help from others
- Grace from Others  
Emphasizes grace experiences with parents, secure attachments
- Grace to Others  
Ability to be graciousness toward others without conditions

Bufford, Sisemore, & Blackburn (2017). Dimensions of grace: Factor analysis of three grace scales. *Psychology of Religion and Spirituality* (9), 1, 223-250.

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## Dimensions of Grace Scale (DGS)

### Subscale: Experiencing God's Grace ( $\alpha = .98$ )

Experience of God's gracious involvement leading to improvement

Because of God's work in my life I feel I have more self-control. My actions are more likely to be appropriate (Loading = 0.85).

Because of God's work in my life I feel I have more self-control. My emotions are more likely to be appropriate (Loading = 0.84).

My beliefs about grace encourage me to be forgiving of others (Loading = 0.78).

God is in the process of making me more like Jesus (Loading = 0.75).

(8 Items in scale)



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## Dimensions of Grace Scale (DGS)

**Subscale: Costly Grace** ( $\alpha = .94$ )  
 Grace requiring believer's effort and an emphasis on behaviors behaviors.  
 "Anti-permissiveness" or "Anti-antinomianism"

- ALL ITEMS REVERSE CODED
- My behavior does not matter since I've been forgiven (Loading = 0.87).
  - If I work harder, I need less grace (Loading = 0.86).
  - Those who sin less than others require less grace (Loading = 0.78)
  - God cares more about what I do than who I am (Loading = 0.72)
- (7 Items in Scale)

## Dimensions of Grace Scale (DGS)

**Subscale: Grace to Self** ( $\alpha = .76$ )  
 Graciousness toward self. Not being hard on self, not over-emphasizing faults, acceptance of shortcomings, able to receive help from others

- I tend to be hard on myself (Loading = 0.69) (R)
  - I tend to dwell on my faults (Loading = 0.67) (R)
  - I seldom feel shame (Loading = 0.65)
  - I accept my shortcomings (Loading = 0.61)
- (7 Items in Scale)

## Dimensions of Grace Scale (DGS)

**Subscale: Grace from Others** ( $\alpha = .84$ )  
 Emphasizes grace experiences with parents, secure attachments

- My parents always remembered my mistakes (Loading = 0.79) (R)
  - One of my parents could stay mad at me for days (Loading = 0.78) (R)
  - My mother or father keeps bringing up my past failures (Loading = 0.77) (R)
  - As a child one parent tended to withhold love when I misbehaved (Loading = 0.69) (R)
- (7 Items in Scale)

## Dimensions of Grace Scale (DGS)

**Subscale: Grace to Others** ( $\alpha = .71$ )  
 Ability to be graciousness toward others without conditions

- Others must earn my forgiveness (Loading = 0.76) (R)
  - I need to see remorse before I offer forgiveness (Loading = 0.67) (R)
  - If someone wrongs me, they need to make it right (Loading = 0.66) (R)
  - I don't get mad at people, I get even (Loading = 0.60) (R)
- (7 Items in Scale)

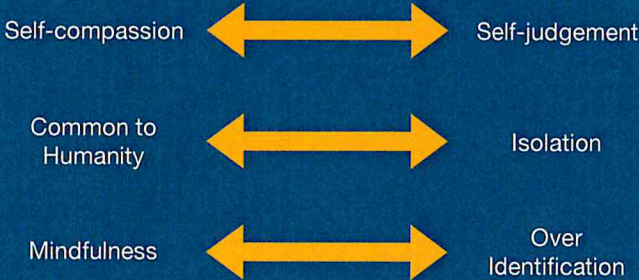
## Duke University Religion Index (DUREL)

Religious Categories (IV)

- Intrinsic religiosity (IR)** (0.75)  
 Assesses degree of personal religious commitment or motivation.
- Organizational religious activity (ORA)**  
 Involves public religious activities such as attending religious services or participating in other group-related religious activity (prayer groups, Scripture study groups, etc.)
- Non-organizational religious activity (NORA)**  
 Religious activities performed in private, such as prayer, Scripture study, watching religious TV or listening to religious radio.

## Self-Compassion Measure

Potential Validity, Mediating, and Moderating Variables



Koenig, H. G. & Basing, A. (2010). The Duke University Religion Index (DUREL): A five item measure for use in epidemiological studies. *Religions*, 1(1), 78-85.

Neff, K. D. (2003). Development and validation of a scale to measure self-compassion. *Self and Identity*, 2, 223-250.

## Self-Compassion Scale

**Subscale: Self-Kindness** ( $\alpha = 0.78 / 0.80$ )

Loving, kind, tolerant, patient and understanding of myself

- 5. I try to be loving towards myself when I'm feeling emotional pain (Loading = 0.71).
- 12. When I'm going through a very hard time, I give myself the caring and tenderness I need (Loading = 0.77).
- 19. I'm kind to myself when I'm experiencing suffering (Loading = 0.74).
- 23. I'm tolerant of my own flaws and inadequacies (Loading = 0.73).
- 26. I try to be understanding and patient towards those aspects of my personality I don't like (Loading = 0.73).

## Self-Compassion Scale

**Subscale: Self-Judgement** ( $\alpha = 0.77 / 0.83$ )

Harsh on self, self-intolerant, self-condemning

- 1. I'm disapproving and judgmental about my own flaws and inadequacies (Loading = 0.72).
- 8. When times are really difficult, I tend to be tough on myself (Loading = 0.70).
- 11. I'm intolerant and impatient towards those aspects of my personality I don't like (Loading = 0.65).
- 16. When I see aspects of myself that I don't like, I get down on myself (Loading = 0.80).
- 21. I can be a bit cold-hearted towards myself when I'm experiencing suffering (Loading = 0.74).

## Self-Compassion Scale

**Subscale: Common to Humanity** ( $\alpha = 0.80 / 0.70$ )

Difficulties are common, my struggles are not unique, able to reassure myself

- 3. When things are going badly for me, I see the difficulties as part of life that everyone goes through (Loading = 0.57).
- 7. When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am (Loading = 0.75).
- 10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people (Loading = 0.79).
- 15. I try to see my failings as part of the human condition (Loading = 0.75).

## Self-Compassion Scale

**Subscale: Isolation** ( $\alpha = 0.79 / 0.77$ )

Feel cut off, separate, alone, & others are happier

- 4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world (Loading = 0.66).
- 13. When I'm feeling down, I tend to feel like most other people are probably happier than I am (Loading = 0.66).
- 18. When I'm really struggling, I tend to feel like other people must be having an easier time of it (Loading = 0.63).
- 25. When I fail at something that's important to me, I tend to feel alone in my failure (Loading = 0.75).

## Self-Compassion Scale

**Subscale: Mindfulness** ( $\alpha = 0.75 / 0.67$ )

Effort to balance emotions & perceptions, keep perspective, curious & open to feelings & inner experiences

- 9. When something upsets me I try to keep my emotions in balance (Loading = 0.68).
- 14. When something painful happens I try to take a balanced view of the situation (Loading = 0.75).
- 17. When I fail at something important to me I try to keep things in perspective (Loading = 0.80).
- 22. When I'm feeling down I try to approach my feelings with curiosity and openness (Loading = 0.62).

## Self-Compassion Scale

**Subscale: Over-Identified** ( $\alpha = 0.81, 0.77$ )

Negative focus, consumed by negative affect, magnification

- 2. When I'm feeling down I tend to obsess and fixate on everything that's wrong (Loading = 0.78).
- 6. When I fail at something important to me I become consumed by feelings of inadequacy (Loading = 0.71).
- 20. When something upsets me I get carried away with my feelings (Loading = 0.65).
- 24. When something painful happens I tend to blow the incident out of proportion (Loading = 0.67).



## Findings: CORRELATIONS

## Pearson Correlations for DGS & Self-Compassion Scales

	DGS Mean & Std. Dev.	SC-Self-Kindness	SC-Self-Judgement	SC-Common to Humanity	SC-Isolation	SC-Mindfulness	SC-Over-identified
SC Mean & Std. Dev.		M = 14.76 SD = 3.89	M = 17.64 SD = 4.14	M = 13.09 SD = 3.05	M = 13.61 SD = 3.58	M = 13.22 SD = 2.78	M = 13.50 SD = 3.56
DGS-God's Grace	M = 41.65 SD = 7.14	0.32**	-0.33**	0.26**	-0.26**	0.42**	-0.31**
DGS-Costly Grace	M = 39.99 SD = 7.00	—	—	—	—	—	—
DGS-Grace to Self	M = 22.06 SD = 5.88	0.58**	—	0.18*	-0.53**	0.35**	-0.49**
DGS-Grace from Others	M = 36.95 SD = 8.78	—	—	—	—	—	-0.19*
DGS-Grace to Others	M = 32.00 SD = 7.32	—	—	—	-0.19*	—	-0.22**

\*\* Correlation significant at the 0.01 level (2-tailed)

\* Correlation significant at the 0.05 level (2-tailed)

## Pearson Correlations for DGS & DUREL Scales

	DUREL Intrinsic	DUREL Combined Organized and Non Organized Religious Behavior
DGS-God's Grace	0.73**	0.53**
DGS-Costly Grace	0.45**	0.36**
DGS-Grace to Self	—	—
DGS-Grace from Others	0.23**	—
DGS-Grace to Others	0.31**	0.31**

\*\* Correlation significant at the 0.01 level (2-tailed)

\* Correlation significant at the 0.05 level (2-tailed)

## Pearson Correlations for DUREL & Self-Compassion Scales

	DUREL Mean & Std. Dev.	SC-Self-Kindness	SC-Self-Judgement	SC-Common to Humanity	SC-Isolation	SC-Mindfulness	SC-Over-identified
DUREL Intrinsic	M = 11.04 SD = 3.03	0.24**	—	—	—	0.27**	-0.18**
DUREL Combined Organized and Non Organized Religious Behavior	M = 7.56 SD = 2.52	—	—	—	—	—	—

\*\* Correlation significant at the 0.01 level (2-tailed)

\* Correlation significant at the 0.05 level (2-tailed)

## Findings: MODERATION ANALYSIS

## What is Moderation Analysis

Moderator analysis is used to determine whether the relationship between two variables depends on (is moderated by) the value of a third variable.

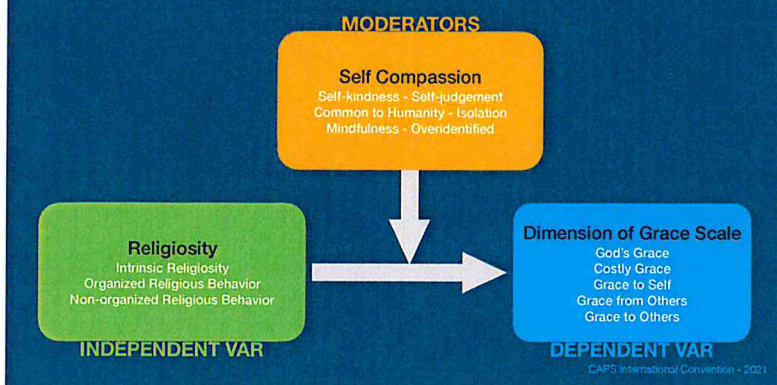
Moderation essentially uses multiple regression to gauge if an interaction effect exists between continuous variables.

An interaction occurs when the effect of one variable depends on the value of another.

Like factorial ANOVA comparing categorical interactions, Moderation analysis considered interactions between continuous variables.



## Findings: MODERATION

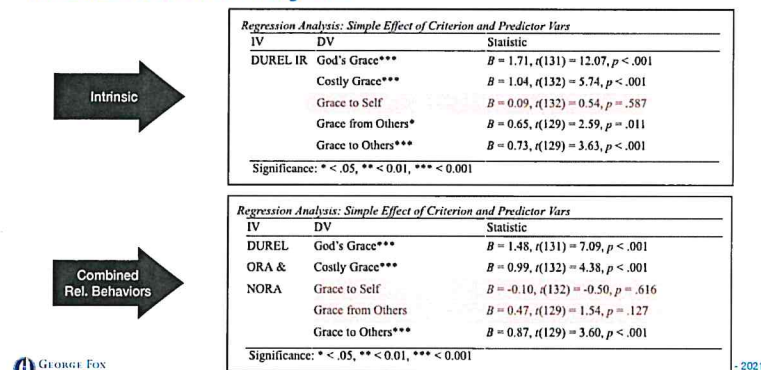


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## Moderation Analysis - Assumption Analysis

- ✓ Testing for assumptions included tests for normality, homoscedasticity, multicollinearity, and score outliers.
- ✓ Across all assumption analyses, no violations were noted except in the outlier analysis.
- ✓ Individual outliers were removed prior to each mediation analysis.

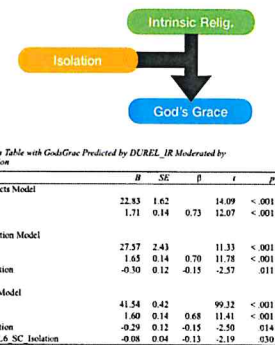
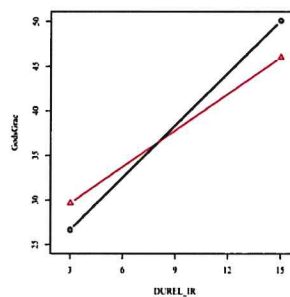
## Moderation Analysis



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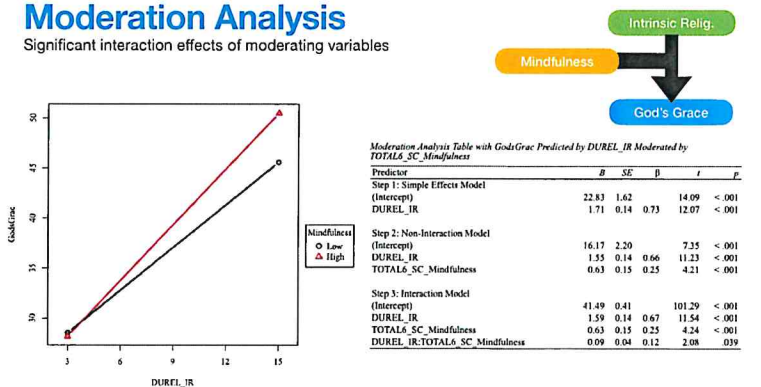
## Moderation Analysis

Significant interaction effects of moderating variables



## Moderation Analysis

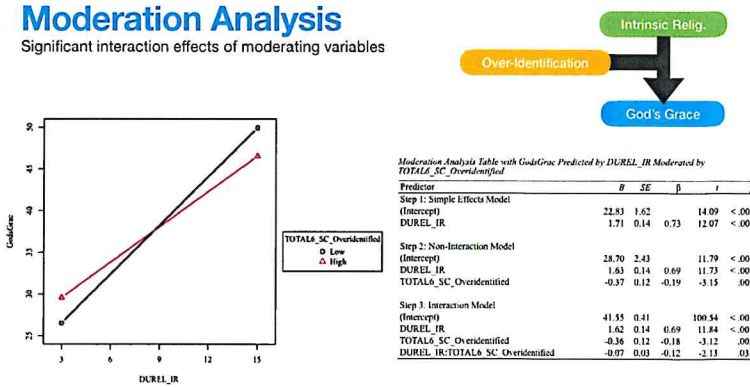
Significant interaction effects of moderating variables



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## Moderation Analysis

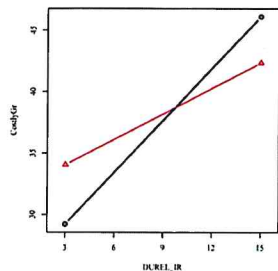
Significant interaction effects of moderating variables



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## Moderation Analysis

Significant interaction effects of moderating variables



**Moderation Analysis Table with CostlyGr Predicted by DUREL\_IR Moderated by TOTAL6\_SC\_CommonHumanity**

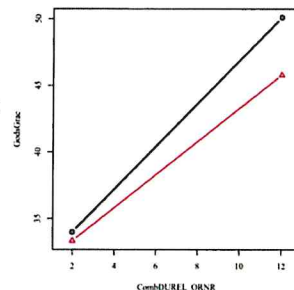
Predictor	B	SE	B	t	p
<b>Step 1: Simple Effects Model</b>					
(Intercept)	28.53	2.07	11.60	< .001	
DUREL_IR	1.04	0.18	0.45	5.74	< .001
<b>Step 2: Non-Interaction Model</b>					
(Intercept)	29.23	2.94	9.95	< .001	
DUREL_IR	1.05	0.18	0.45	5.71	< .001
TOTAL6_SC_CommonHumanity	-0.06	0.18	-0.03	-0.34	.736
<b>Step 3: Interaction Model</b>					
(Intercept)	40.21	0.54	71.14	< .001	
DUREL_IR	1.04	0.18	0.45	5.84	< .001
TOTAL6_SC_CommonHumanity	-0.07	0.18	-0.03	-0.42	.675
DUREL_IR * TOTAL6_SC_CommonHumanity	-0.16	0.05	-0.23	-3.08	.003

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## Moderation Analysis

Significant interaction effects of moderating variables



**Moderation Analysis Table with CostlyGr Predicted by CombDUREL\_ORNR Moderated by TOTAL6\_SC\_Isolation**

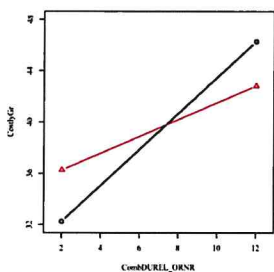
Predictor	B	SE	B	t	p
<b>Step 1: Simple Effects Model</b>					
(Intercept)	30.45	1.66	18.29	< .001	
CombDUREL_ORNR	1.48	0.21	0.53	7.09	< .001
<b>Step 2: Non-Interaction Model</b>					
(Intercept)	37.23	2.55	14.61	< .001	
CombDUREL_ORNR	1.46	0.20	0.52	7.24	< .001
TOTAL6_SC_Isolation	-0.48	0.14	-0.24	-3.42	< .001
<b>Step 3: Interaction Model</b>					
(Intercept)	41.61	0.50	83.18	< .001	
CombDUREL_ORNR	1.45	0.20	0.52	7.32	< .001
TOTAL6_SC_Isolation	-0.46	0.14	-0.23	-3.30	.001
CombDUREL_ORNR * TOTAL6_SC_Isolation	-0.12	0.05	-0.15	-2.11	.037

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## Moderation Analysis

Significant interaction effects of moderating variables



**Moderation Analysis Table with CostlyGr Predicted by CombDUREL\_ORNR Moderated by TOTAL6\_SC\_CommonHumanity**

Predictor	B	SE	B	t	p
<b>Step 1: Simple Effects Model</b>					
(Intercept)	32.53	1.80	18.12	< .001	
CombDUREL_ORNR	0.99	0.23	0.35	4.38	< .001
<b>Step 2: Non-Interaction Model</b>					
(Intercept)	32.49	2.90	11.20	< .001	
CombDUREL_ORNR	0.99	0.23	0.35	4.33	< .001
TOTAL6_SC_CommonHumanity	0.00	0.19	0.00	0.02	.988
<b>Step 3: Interaction Model</b>					
(Intercept)	40.16	0.55	72.71	< .001	
CombDUREL_ORNR	1.07	0.22	0.38	4.81	< .001
TOTAL6_SC_CommonHumanity	-0.02	0.18	-0.01	-0.12	.904
CombDUREL_ORNR * TOTAL6_SC_CommonHumanity	-0.21	0.07	-0.23	-3.16	.002

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## Findings: MEDIATION ANALYSIS



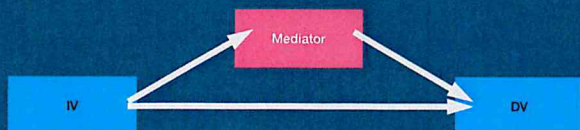
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## What is Mediation Analysis

Mediation analysis quantifies the extent to which a third variable (mediator) participates in the transmittance of change (cause to effect) from one variable (IV) to another (DV).

Mediation analysis is conducted by adding a third variable into a regression analysis.

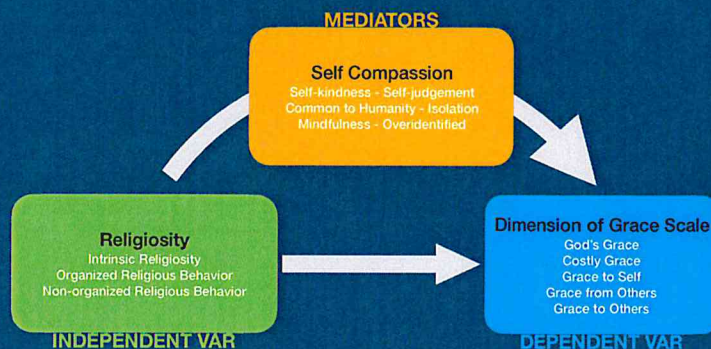


Baron, R. M. and Kenny, D. A. (1986) "The Moderator-Mediator Variable Distinction in Social Psychological Research - Conceptual, Strategic, and Statistical Considerations", *Journal of Personality and Social Psychology*, Vol. 51(6), pp. 1173-1182.

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## Findings: MEDIATION



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## Mediation Analysis



Regression Analysis: Simple Effect of Criterion and Predictor Vars		
IV	DV	Statistic
DUREL IR	God's Grace***	$B = 1.71, t(131) = 12.07, p < .001$
	Costly Grace***	$B = 1.04, t(132) = 5.74, p < .001$
	Grace to Self	$B = 0.09, t(132) = 0.54, p = .587$
	Grace from Others*	$B = 0.65, t(129) = 2.59, p = .011$
	Grace to Others***	$B = 0.73, t(129) = 3.63, p < .001$
Significance: * < .05, ** < 0.01, *** < 0.001		

Regression Analysis: Simple Effect of Criterion and Predictor Vars		
IV	DV	Statistic
DUREL	God's Grace***	$B = 1.48, t(131) = 7.09, p < .001$
ORA &	Costly Grace***	$B = 0.99, t(132) = 4.38, p < .001$
NORA	Grace to Self	$B = -0.10, t(132) = -0.50, p = .616$
	Grace from Others	$B = 0.47, t(129) = 1.54, p = .127$
	Grace to Others***	$B = 0.87, t(129) = 3.60, p < .001$
Significance: * < .05, ** < 0.01, *** < 0.001		

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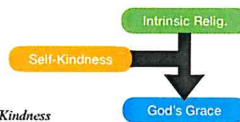
## Mediation Analysis - Assumption Analysis

- ✓ Testing for assumptions included tests for normality, homoscedasticity, multicollinearity, and score outliers.
- ✓ Across all assumption analyses, no violations were noted except in the outlier analysis.
- ✓ Individual outliers were removed prior to each mediation analysis.

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## Mediation Analysis

Contribution of a third variable to a relationship between two variables



Mediation Results for GodsGrac predicting DUREL\_IR mediated by TOTAL6\_SC\_SelfKindness

Dependent	Independent	B	SE	t	p
Regression 1:					
GodsGrac	DUREL_IR	1.71	0.14	12.07	< .001
Regression 2:					
TOTAL6_SC_SelfKindness	DUREL_IR	0.31	0.11	2.87	.005
Regression 3:					
GodsGrac	DUREL_IR	1.62	0.14	11.33	< .001
	TOTAL6_SC_SelfKindness	0.27	0.11	2.45	.016

God's Grace Score = Intrinsic Religiosity Score (1.62) + Self-Kindness Score (0.27) + 19.75

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## Mediation Analysis

Contribution of a third variable to a relationship between two variables



Mediation Results for GodsGrac predicting DUREL\_IR mediated by TOTAL6\_SC\_Mindfulness

Dependent	Independent	B	SE	t	p
Regression 1:					
GodsGrac	DUREL_IR	1.71	0.14	12.07	< .001
Regression 2:					
TOTAL6_SC_Mindfulness	DUREL_IR	0.25	0.08	3.17	.002
Regression 3:					
GodsGrac	DUREL_IR	1.55	0.14	11.23	< .001
	TOTAL6_SC_Mindfulness	0.63	0.15	4.21	< .001

God's Grace Score = Intrinsic Religiosity Score (1.55) + Mindfulness Score (0.63) + 16.17

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## Mediation Analysis

Contribution of a third variable to a relationship between two variables



Mediation Results for GodsGrac predicting DUREL\_IR mediated by TOTAL6\_SC\_Overidentified

Dependent	Independent	B	SE	t	p
Regression 1:					
GodsGrac	DUREL_IR	1.71	0.14	12.07	< .001
Regression 2:					
TOTAL6_SC_Overidentified	DUREL_IR	-0.21	0.10	-2.04	.043
Regression 3:					
GodsGrac	DUREL_IR	1.63	0.14	11.73	< .001
	TOTAL6_SC_Overidentified	-0.37	0.12	-3.15	.002

God's Grace Score = Intrinsic Religiosity Score (1.63) + Overidentification Score (-0.37) + 28.70

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## Mediation Analysis

Contribution of a third variable to a relationship between two variables



Mediation Results for GraceFrO predicting DUREL\_IR mediated by TOTAL6\_SC\_SelfJudgement

Dependent	Independent	B	SE	t	p
Regression 1:					
GraceFrO	DUREL_IR	0.65	0.25	2.59	.011
Regression 2:					
TOTAL6_SC_SelfJudgement	DUREL_IR	-0.25	0.12	-2.08	.039
Regression 3:					
GraceFrO	DUREL_IR	0.55	0.25	2.22	.028
	TOTAL6_SC_SelfJudgement	-0.37	0.18	-2.01	.047

Grace from Others Score = Intrinsic Religiosity Score (0.55) + Self-Judgement Score (-0.37) + 37.20

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## Mediation Analysis

Contribution of a third variable to a relationship between two variables



Mediation Results for GraceToO predicting DUREL\_IR mediated by TOTAL6\_SC\_Overidentified

Dependent	Independent	B	SE	t	p
Regression 1:					
GraceToO	DUREL_IR	0.75	0.20	3.74	< .001
Regression 2:					
TOTAL6_SC_Overidentified	DUREL_IR	-0.21	0.10	-2.03	.045
Regression 3:					
GraceToO	DUREL_IR	0.68	0.20	3.36	.001
	TOTAL6_SC_Overidentified	-0.35	0.17	-2.05	.043

DV: God's Grace Score = Intrinsic Religiosity Score (0.68) + Overidentification Score (-0.35) + 29.26

## Discussion: PRACTICAL APPLICATION

## Presenters



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## Notes

- An eigenvalue is a number, telling you how much variance there is in the data in that direction
- The beta coefficient is the degree of change in the outcome variable for every 1-unit of change in the predictor variable. The t-test assesses whether the beta coefficient is significantly different from zero. If the beta coefficient is not statistically significant (i.e., the t-value is not significant), the variable does not significantly predict the outcome.