Attributing Problem-Solving to God, Receiving Social Support, and Stress-Moderation

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This research note explores the stress-moderating effects of attributing a problem-solving role to God among a nationwide sample of 2,260 Americans. Specifically, the ways in which the perception of "God-as-a-problem-solver" moderates stress is explored for Americans reporting low and high levels of social support from other people. Within a model that interacts two moderators (i.e., a moderated moderation analysis), two predictions are tested that extend from social support and sense of control frameworks. Consistent with one prediction, viewing God-as-a-problem-solver had a stress-buffering effect (i.e., a reduction of the negative impact of life stressors on a depressive symptomology outcome measure) among those receiving low social support. Consistent with a second prediction, viewing God-as-a-problem-solver served as a stress-exacerbator among those already receiving high levels of social support. Findings suggest that the optimal count of supportive sets of entities (be it God or other people) is no fewer or no more than one.

Keywords: coping, God, stress, mental health, moderation

INTRODUCTION

There are multiple long-standing research traditions linking aspects of social support to coping outcomes (Lakey and Cohen 2000). There is also an extensive body of research on religious coping in general, but relatively few studies explicitly looking at the coping effects of attributing a problem-solving role to God (i.e., a "God-as-problem-solver" attribution) (Bradshaw, Ellison, and Marcum 2010). Given the dearth of these latter types of studies, potential interrelationships between attributing a problem-solving role to God and measures of social support have gone unexplored in coping studies (Ellison, Bradshaw, Flanelly, and Galek 2014). In a nation with comparatively high levels of belief in God and lessening expectations of support from traditional social networks, it is surprising that there is such a research gap (Pew Research Center 2018; Pollner 1989). Additionally, as God is a potential coping resource for all, but access to social support is conditional or context-dependent, something of an open question remains as to whether social and divine forms of support serve as substitute for, or complements for, each other (Krause 2002; Koenig 2009).

The main contribution of this short-form research note is to help fill this research gap and to test a few predictions about human/divine multi-entity coping. To do so, we look at stress-moderation dynamics in models including a measure of receiving social support from other people (i.e., Krause's [2016] social support scale), a measure reflecting the degree to which God is viewed as having solutions to personal problems, and a staple mental health outcome measure of coping research (i.e., depressive symptomology as measured by the CES-D [Radloff 1977]). Specifically, we test direct and indirect models to determine optimal coping arrangements involving two types of supporting entities—the Divine and Other

people as social supports. To this extent, our research findings, and the discussion thereof, may also contribute to public health discourses.

God-as-a-Problem-Solver, Social Support, and Coping

Most Americans believe in God and even those who do not may be compelled to petition God when in need (Bradshaw, Ellison, and Marcum 2010; Pew Research Center 2018). In contrast, the ability to receive social support from other people is contingent or context-dependent, potentially making access to a conception of the divine a more readily-accessible coping resource than interpersonal support (Koenig 2009; Pollner 1989). This can make the vast literature on the stress-moderating effects of social support on mental health outcomes seem disproportionate to the relatively modest coping literature on the attribution of problem-solving agency to God (Fiori, Hays, and Meador 2004; Lakey and Cohen 2000). Whether that is or is not the case, it certainly means that the joint effect of human and divine coping resources are rarely examined (Ellison, Bradshaw, Flanelly, and Galek 2014; see Krause 2002).

One possible explanation for a gap in this research is in the nature of attributions. That is, attributing a problem-solving role to God is not necessarily indicative of factors with known stress-moderating effects such as secure (or insecure) attachment to God, images of God, views on instrumental divine intervention and so on (Pollner 1989; Schieman, Bierman, and Upenieks 2018). At most, attributing a problem-solving role to God simply asserts a belief that an agent (be it viewed as disinterested or intervening) has plans and that the plan includes resolutions to personal problems (Bradshaw, Ellison, and Marcum 2010; Ellison, Bradshaw, Flanelly, and Galek 2014). One distressing alternative view would be that no solution to personal problems can be conceived of by any agent. As supportive worldly agents may also suggest solutions to life challenges, we explore the social support conditions under which the perceived presence of God-as-a-problem-solver buffers or exacerbates stress.

Relative to attributing a problem-solving plan to God, it is conceptually clearer what social support represents—access to the observable support of other people. First, the measure we use (i.e., Krause's [2016] social support scale) has the desirable property of relating explicitly to having received social support. This keeps a recommended separation between conceptually-differing aspects of social support dynamics (e.g., receiving support, the number of sources of support, etc.) (Lakey and Cohen 2000). Additionally, the measure captures the receipt of a primarily emotional form of social support (Krause 2016). In short, our measure relates to the degree to which the interpersonal resource of emotional support has been provided to the respondent by worldly entities (i.e., "other people").

A Moderated Moderation Model

With a sense of what our key measures represent, how would attributing a problem-solving role to God be expected to interact with receiving personal social support within a stress-moderation model? The conceptual model, presented in Figure 1, is one in which a stress-moderating effect for social support is dependent on the degree to which one attributes a problem-solving role to God, or a "moderated moderation" model (Hayes 2018).

[Figure 1 about here]

There are many conditions within the moderated moderation model in which stress-moderation could be observed. However, given the novel nature of our exploration, there is no theoretical guidance to develop predictions for all parts of the model. There do appear, however, to be lines of inquiry to guide a few predictions. For one, there are findings consistent with substitution models in which a sense of God's presence serves as a source of solace when low levels of support from worldly others are available (Bradshaw, Ellison, and Marcum 2010; Pollner 1989). Put another way, the number of supporting entities for those with neither a sense of God's presence nor the support of other people, is exactly zero—a

high distress condition. As such, the support breach that God-as-problem-solver fills for those with low social support should serve as a stress-buffer:

H1: (Substitution effect) In the low social support condition, as life stressors increase, the stress-<u>buffering</u> effect of attributing a problem-solving role to God increases.

There are also frameworks suggesting, and findings consistent with, <u>non-complementary</u> models of Divine involvement. Specifically, when other people provide a supportive framework, reliance on additional entities such as God may represent a suspension of agency and perhaps indicates a perceived deficit in one's personal capacity to find solutions to life problems. This would represent a high distress condition. (cf. Fiori, Hays, and Meador 2004; Krause 2002; Schieman, Bierman, and Upenieks 2018). As such:

H2: (Non-complementary effect) In the high social support condition, as life stressors increase, the stress-<u>exacerbation</u> effect of attributing a problem-solving role to God increases.

It is interesting to note that previous theory suggests that the optimal number of types of supportive entities (i.e., the Divine or Other people as a support system) is no more or less than one. That is, having access to no such support systems, as well as requiring a surplus of supportive presences, are both viewed as high-distress conditions. With our predictions and their rationales stated, we now turn to discerning whether a significant moderated moderation dynamic can be observed at all and, if so, we probe within the model to see if our predictions receive empirical support.

DATA AND METHODS

Sample

Data come from the AARP 2018 Brain Health and Mental Health survey (N= 2,287 US adults nationwide, see https://doi.org/10.26419/res.00247.001). Ipsos conducted

interviews between May 15-31, 2018 using their probability-based on-line panel,

KnowledgePanel (compliance rate = 65%). 2,260 cases were deemed suitable to use for

analysis after data quality reviews. Full sample estimates have a standard error of +/-2.1

percentage points.

Measures

Dependent measure: Center for Epidemiologic Studies Depression scale (CES-D). The

CES-D score assesses the frequency of depressive symptomology experienced during the

previous week (Radloff 1977). It consists of 20 items (Cronbach's α= .93) which, after

accounting for the reverse-coding of several items, are summed. The summed response

options for all items reflect how often each statement reflects how one has felt during the last

week and are 0= rarely, 1= none of the time, 2= most of the time, and 3= all of the time (with

items requiring reverse coding). The depressive symptomology outcome measure has a

minimum score of 0 and a maximum of 60 (M= 13.71, sd= 11.58).

Focal predictor: The life stress index. The count of life event stressors was the reported sum

of such events experienced in the previous year from a list of 28 stressors. These stressful life

events were balanced across multiple life domains. For example, financial stressors included

a decrease in income, increases in expenses, etc., and health stressors included a major

personal injury or illness or that of a spouse, close family member, or close friend, and so on.

The life stressor index has a minimum score of 0 and a maximum of 28 (M= 5.59, sd= 4.01).

Moderator 1: Social support scale. Properties of the social support moderator are described

in greater detail in Krause (2016). The four-item scale is viewed as indicative of forms of

accessible coping support of an interpersonal nature and includes items such as "Thinking

back over the past year, how often has someone listened to you talk about your private

feelings?" and "Thinking back over the past year, how often has someone been right there

with you (physically) in a stressful situation?". For all items, the response options are 1=

Never, 2= once in a while, 3= fairly often 4= very often with higher scale values indicative of greater social support (M= 10.90, sd= 3.43, Min= 4; Max= 16, Cronbach's= .89).

Moderator 2: "God-as-problem-solver" attribution. This is a single-item measure that assesses the degree to which one attributes agency to one's Self or to God in finding a solution to life challenges. First a preamble is presented that reads "Thinking about challenges or problems you face in your life" and then respondents must select only one of five potential response options presented in a continuum: 1= I will find a solution for myself, 2= <no descriptor>, 3= Both equally, 4= <no descriptor>, 5= My God will find a solution for me. Higher values are related to a greater attribution of problem-solving agency to God (M= 2.87, sd= 1.46, Min= 1; Max= 5)

Controls

The majority of controls are vendor-provided demographics and include: age in years (M= 47.862, sd= 17.488), Male/female, 1= female (M= 0.519, sd= 0.500), and Highest level of education completed, 1= up to high school graduation (M= 0.397, sd= 0.489). Two multi-categorical indicators required reference categories. For race/ethnicity, White, non-Hispanic served as the reference category and binary-coded measures were: Hispanic (any race) (M= 0.159, sd= 0.366), African-American (M= 0.117, sd= 0.322), and Asian-American (M= 0.083, sd= 0.276). Annual income was converted from a set of vendor-provided dollar ranges into an approximation of income quartiles. The highest income quartile served as the reference category and the indicators were: lowest quartile (M= 0.228, sd= 0.420), second lowest quartile (M= 0.293, sd= 0.455) and second highest quartile (M= 0.257, sd= 0.437).

Additional controls were based on survey items and included: Health status, which asked "How would you describe your overall health at this point in time?" with response options being 1= poor 2= fair 3= good 4= very good and 5= excellent (M= 3.514, sd= 0.922), optimal sleep hours which was "1" if open-ended response ranged between 7 to 8.5 hours to

an item asking "In a typical night, how many hours of sleep do you get?" (M= 0.535, sd= 0.499), and public religious involvement was coded "1" for those reporting any engagement in worship services and/or group meditation within the past year (M= 0.413, sd= 0.493).

Modeling Strategy

A preliminary direct effects model was conducted with OLS regression using standard SPSSv26 functionality. Hayes Model 3 (2018) provided an omnibus test of moderated moderation and probing values for determining support for Hypotheses 1 and 2.

RESULTS

Table 1 presents coefficients for a direct effects (OLS) model and the moderated moderation model. The OLS model serves to demonstrate a few expected linear relationships. For example, depressive symptomology increases with the count of life event stressors (.65; p ≤.001) and decreases with higher levels of receiving social support (-.54; p ≤ 001). However, attributing a problem-solving role to God has no linear relationship to distress one way or another (.17; n.s.). As such, whatever role it may play in relationship to distress would need to be observed in indirect models. This assertion gains initial support in that a significant moderated moderation effect was noted (given by the significance of the coefficient labelled "Stressors x Social support x God attribution" [.02; p ≤ .05]).

[Table 1 about here]

The significant moderated moderation effect in Table 1 enables a further exploration of, but does not lend definitive support to, our predictions that a) stress-buffering would be observed in the relatively low social support condition, and b) stress-exacerbation would be observed in the relatively high social support condition. Figure 2. is a visualization of stress-moderating effects and provides some of the necessary post-hoc observations to aid us in assessing the accuracy of our predictions.

[Figure 2 about here]

The left panel of Figure 2 depicts stress dynamics in the <u>low</u> social support condition and, as predicted in Hypothesis 1, as life stressors increase, the stress-<u>buffering</u> effect for those attributing a problem-solving role to God increases. The right panel of Figure 2 depicts the <u>high</u> social support condition and, again as predicted, as life stressors increase, the stress-<u>exacerbating</u> effect for those attributing a problem-solving role to God increases. Additional output for post-hoc probing (i.e., Johnson-Neyman figures) suggest that however slight stress-moderating effects may appear, differences between those with relatively low- and high- levels of God attributions are reliably statistically-significant when the count of life event stressors are fairly high (i.e., at 14 or more life event stressors) (Hayes 2018).

The pattern of our findings lends support to two hypotheses. The first finds that the perceived sense of a problem-solving God serves as something of a substitute for not receiving social support. The second finds that the perceived sense of a problem-solving God does not complement the receipt of social support from other people. We now consider the meaning and broader implications of these findings.

DISCUSSION AND CONCLUSION

This research note looked at a novel question in the God-involved coping literature. Our desired contribution was to propose a model conditioning the stress-moderation effects of receiving social support upon the degree to which one attributes a problem-solving role to God. Previous theory informed two predictions that both received empirical support within a moderated moderation model (using data from 2,260 randomly-selected Americans).

What the pattern of findings suggest is that, when social resources are low, attributing a problem-solving role to God serves as a <u>substitute</u> for receiving social support. Additionally, in the less-distressing condition in which respondents receive high levels of social support, significantly lower depressive symptomology is noted for those who <u>do not</u> attribute problem-solving to God as the count of life stressors increase. Essentially, the

optimal number of types of entities (i.e., humans and God) to aid in handling life challenges is one. That is, in the absence of social support for one's Self, there is the sole assistance of the presence of God to serve as a coping resource. Similarly, the sole assistance of other people is available as a coping resource when the Self is left to find the solution to its own problems. However, in the condition featuring the perceived assistance of <u>multiple</u> entities, a stress-exacerbation dynamic is noted that potentially extends from the respondent's lack of agency in finding solutions to their own problems.

Normatively, this set of findings support a very muddled prescription for optimal human/divine coping. It is clear enough that one could benefit from viewing God as involved in personal challenges when support is not forthcoming from anybody else, but if one <u>is</u> receiving social support, should respondents discount input from the Divine? It would seem that attributing problem-solving solutions to God is not a tendency that should shift within individuals on account of whether they happen to be receiving social support or not. However, that may be less of a declarative statement than it is an open question requiring further tests. One future avenue of research may be an identification of conditions in which complementary effects are found when one receives social support and ascribes problem-solving to God. Partitioned analyses (e.g., looking at moderation dynamics within groups such as those defined by income quartiles, race/ethnicity categories, age ranges, etc.) would be one avenue for such an exploration as the array of life stressors, the availability of God, and other factors may differ between such groups.

A few limitations with the present research should be noted. First, the God-as-problem-solver measure, beyond being a single-item indicator (i.e.,"My God will find a solution for me"), may be suitable for the United States in which Abrahamic religions are alive and well, but ongoing shifts in religious demography truly call for a term to capture the broader, modern conceptualization of "God". We tried, but items proved clunky, tended to

confuse inner and external spirits, and otherwise introduced problems. Another limitation has to do with the mutual exhaustiveness of sources and functions of support. It is hard to conceive of an elegant measurement scheme to reflect two types of assistance (i.e., providing social support and formulating a problem-solving plan) among the three types of entities (the Self, Other people, and God). Combinations of this nature lead to multiple conditions that are not covered by extant theory or involve absurd conditions in which parties do not follow their own plans. As such, mutual-exhaustiveness was less of a design concern than the generation of coherent findings.

This initial look at divine attributions within social support coping models suggests that pro-coping effects of divine attributions differ with regard to levels of social support. At low levels, it is protective, and at high levels of social support (where distress is already lower), it exacerbates stress. The pro-health prescription is therefore aimed at those with few social support resources—try to determine if God, however conceived, can be sensed within your struggles.

<div align="center">REFERENCE</div>

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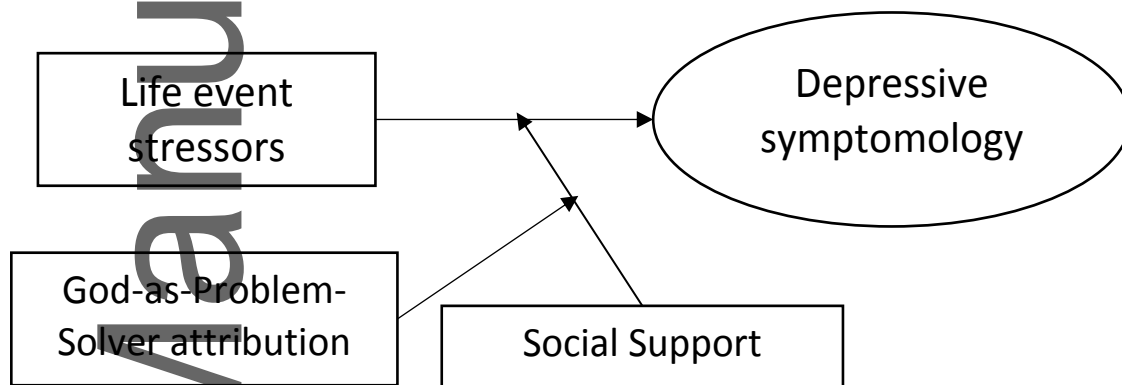Figure 1. A Moderated stress-moderation model

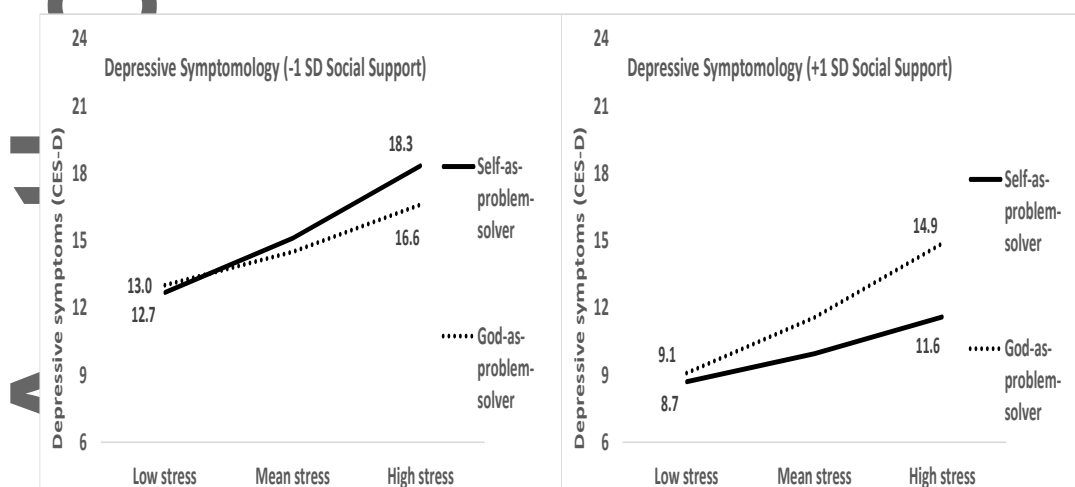Figure 2. Visualization of stress-moderating effects

Table 1. Unstandardized (and standardized) regression coefficients for a direct effects OLS model and a moderated moderation model (N = 2,260 Americans 18+); DV = Depressive Symptomology (CES-D Scale).

	Ordinary Least Squares (Direct)	Moderated Moderation
Theoretically-relevant measures		
Stressors x Social support x God attribution	--- (---)*	.02
Social support	-.54 (-.16)***	-.35 (---)*
God-as-problem-solver attribution	.17 (.02)	.53 (---)**
Stressors	.65 (.22)***	1.39 (---)***
Controls		
Age in Years	-.13 (-.20)***	-.15 (-2.55)***
1 = Female	.35 (.01)	.27 (-.14)
1 = Education up to high school grad.	1.07 (.05)*	1.09 (.54)*
(Ref) White, non-Hispanic		
African American, non-Hispanic.	.35 (.02)	-.39 (-.13)
Hispanic Any	.92 (.03)	1.13 (.41)
Multi/Other Race-ethn.	.25 (.01)	-.03 (-.01)

(Ref) Income = $125K or more

Income = up to $34,999	1.19 (.04)	1.39 (.58)*
Income = from $35K to $74,999	-.16 (.01)	.15 (.07)
Income from $75K to $124,999	-.87 (-.03)	-.63 (-.27)
Health status	-3.28 (-.26)***	-3.19(-2.94)***
1 = Meets recommended hours of sleep	-2.79 (-.12)***	-2.88(-1.44)***
1 = Any public religious involvement	-1.78 (-.08)***	-1.78 (-.88)***
R^2	.31	.31
Constant	35.26***	33.27***

Significance levels: *p<.05, **p<.01, ***p<.001