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Gregory Guldner

*HCA Healthcare*, [gregory.guldner@hcahealthcare.com](mailto:gregory.guldner@hcahealthcare.com)

Jason Siegel

Brendon Ellis

Anne Brafford

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# The Role of Mindset, Impostorism, and Irrational Beliefs in Resident Wellness: Results from the HCA Nationwide Longitudinal Resident Wellness Study

Gregory Guldner, MD, MS; Jason Siegel, PhD; Brendon Ellis, MA; Anne Brafford, JD, MA  
Riverside Community Hospital/University of California Riverside and Claremont Graduate University

## Introduction

The significant proportion of residents reporting poor levels of well-being has appropriately fueled a call for interventions. Mindset (fixed versus growth), impostorism (the belief that one's success is fraudulent) and irrational beliefs (dysfunctional beliefs that contribute to emotional pain and anguish) are among individual variables postulated to relate to well-being in a high-pressure educational environment. Each of these constructs is amenable to interventions should they have causal relationships to well-being.

## Objectives

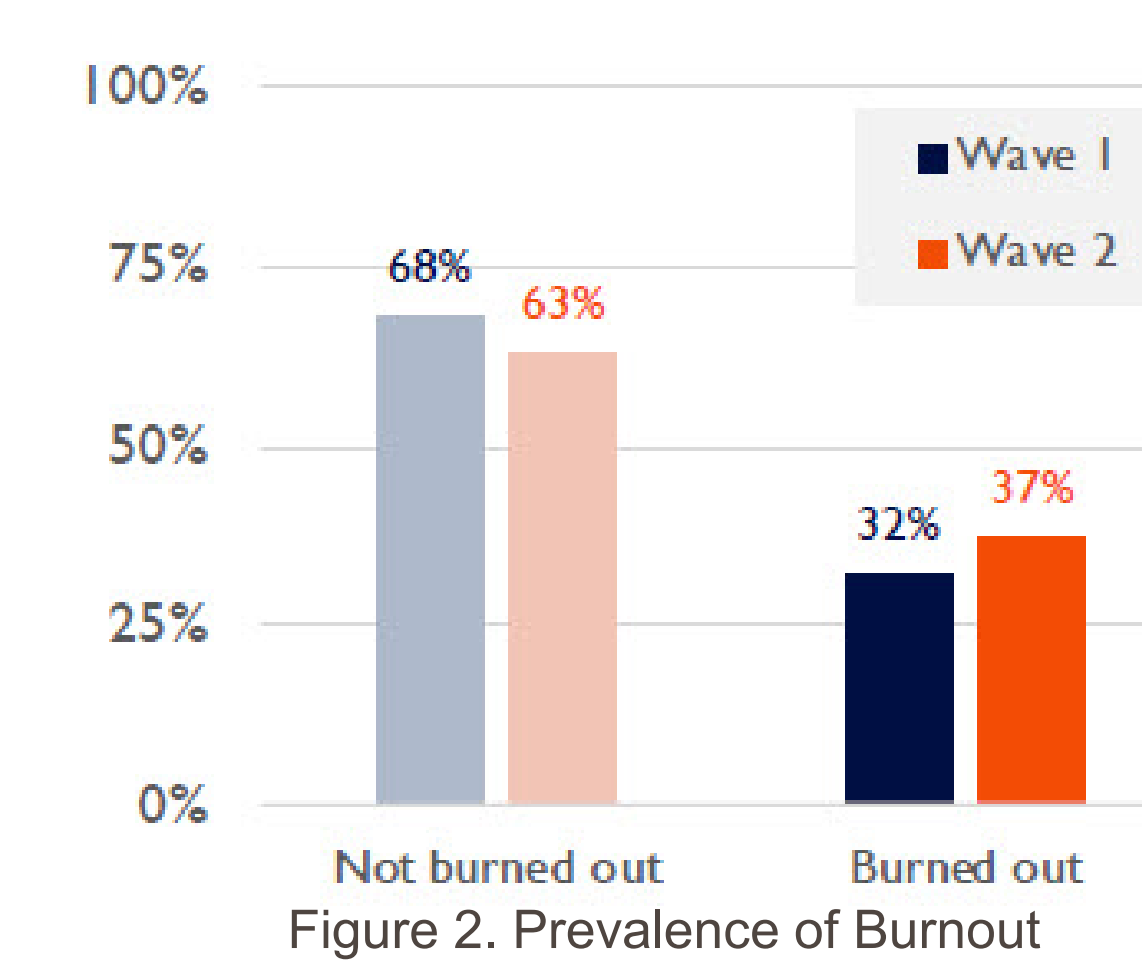
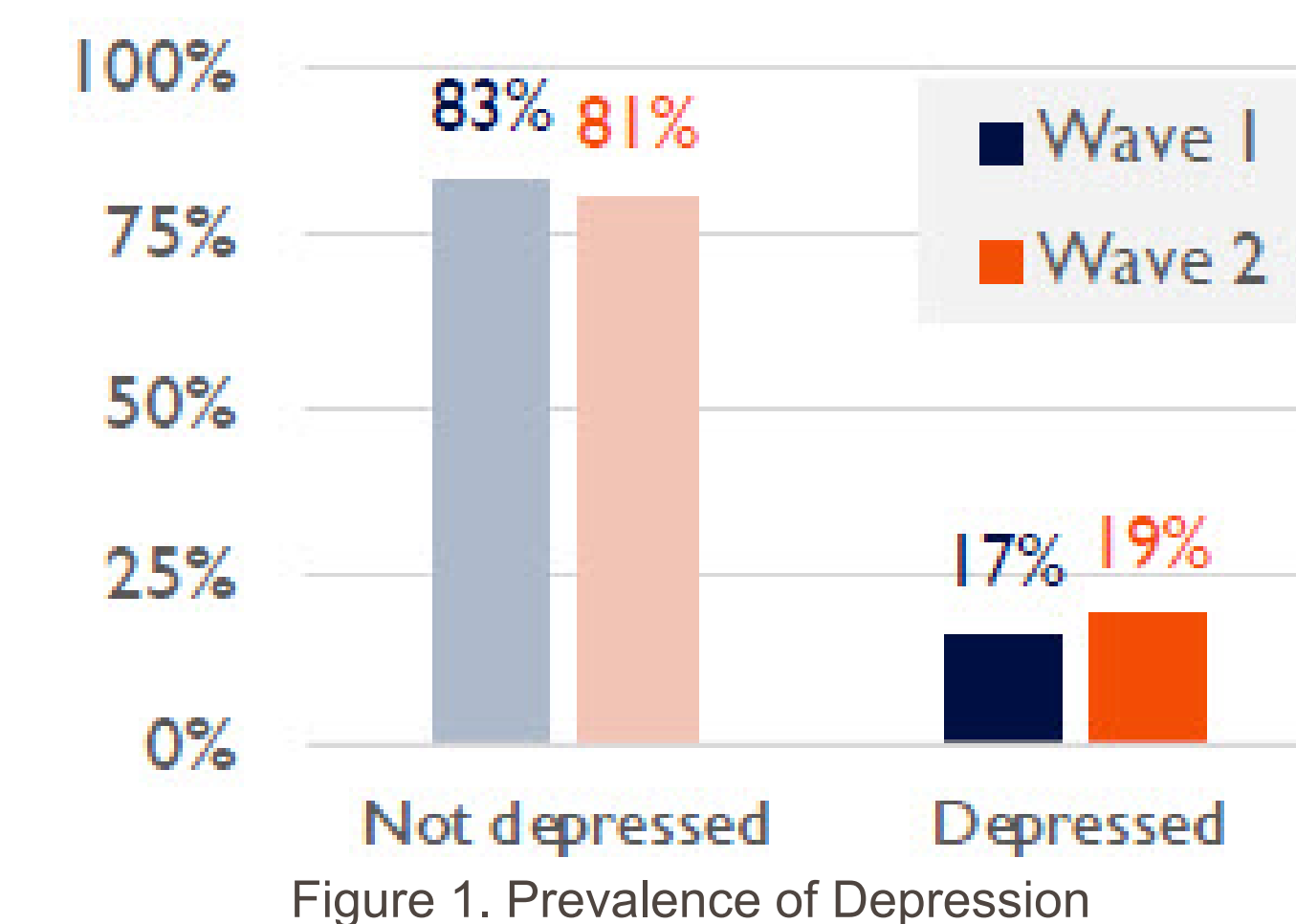
Our prior research resulted in a statistically validated model of well-being in which the perception of meaningful work, strong psychological capital (hope, efficacy, resilience, and optimism), social support, and supervisor support for autonomy had significant relationships with depression, burnout, and engagement. During a replication study of our prior research, we sought to determine to what degree mindset, impostorism, and cognitive distortions relate to well-being within this model.

## Methods

As part of a longitudinal nationwide well-being study of HCA residents participants completed previously validated measures of meaningful work (Work & Meaning Inventory), supervisor support for autonomy (PAS-Work Climate Inventory), psychological capital (PCQ), impostorism (Impostorism Scale), mindset (Growth Mindset Scale), and irrational beliefs (Belief Scale). Outcome measures included burnout (Professional Fulfillment Burnout Subscale), depression (PHQ-9), and engagement (Professional Fulfillment Engagement Subscale). Participants have completed two of three waves of surveys. Structural equation modeling and path analysis was used to explore the relationships between predictor and outcome variables.

## Results

The first wave, completed in July of 2019, included 579 residents, while the second wave in October of 2019 included 398 residents of which 107 completed both surveys. The prevalence of depression and burnout are shown in Figures 1 and 2.



The severity of depression is shown in Figure 3. The risk of depression was 8 to 9 times greater in those residents with burnout (Wave 1 = 41%, Wave 2 = 44%) compared to those without burnout (Wave 1 = 5%, Wave 2 = 4.4%).

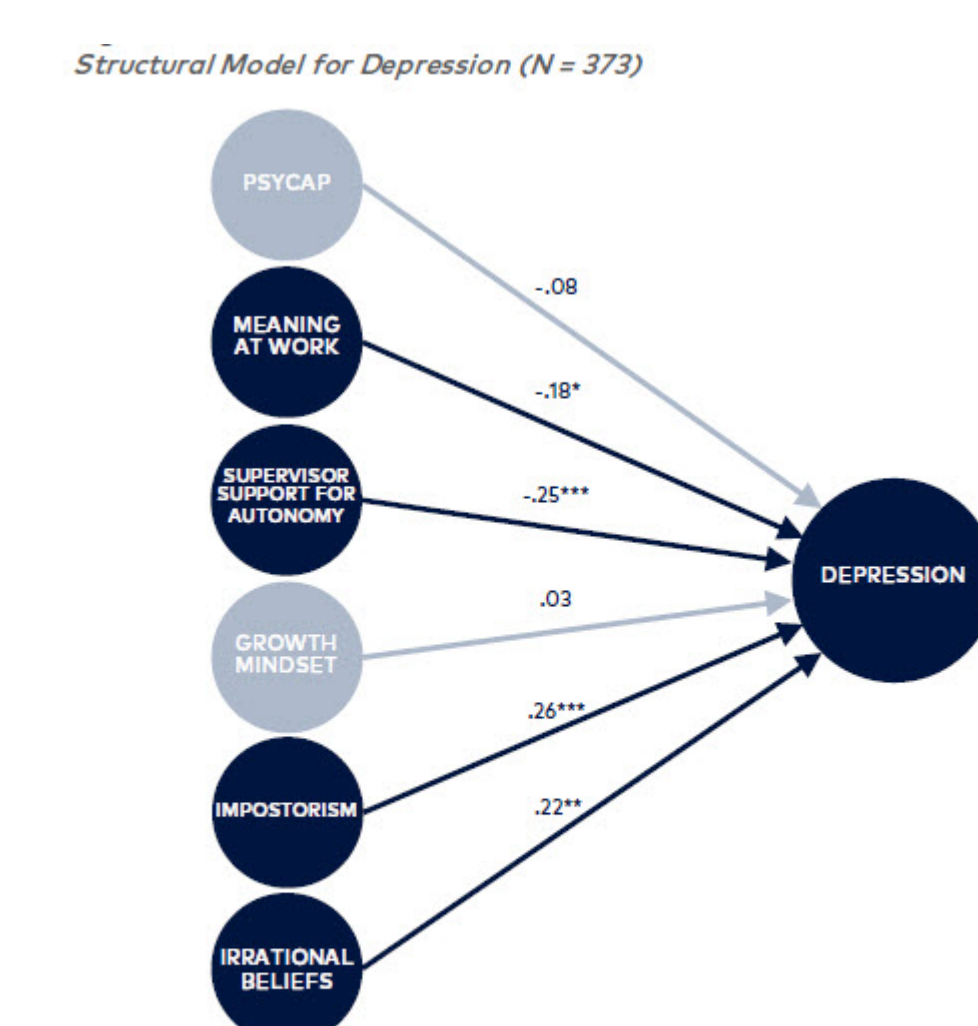
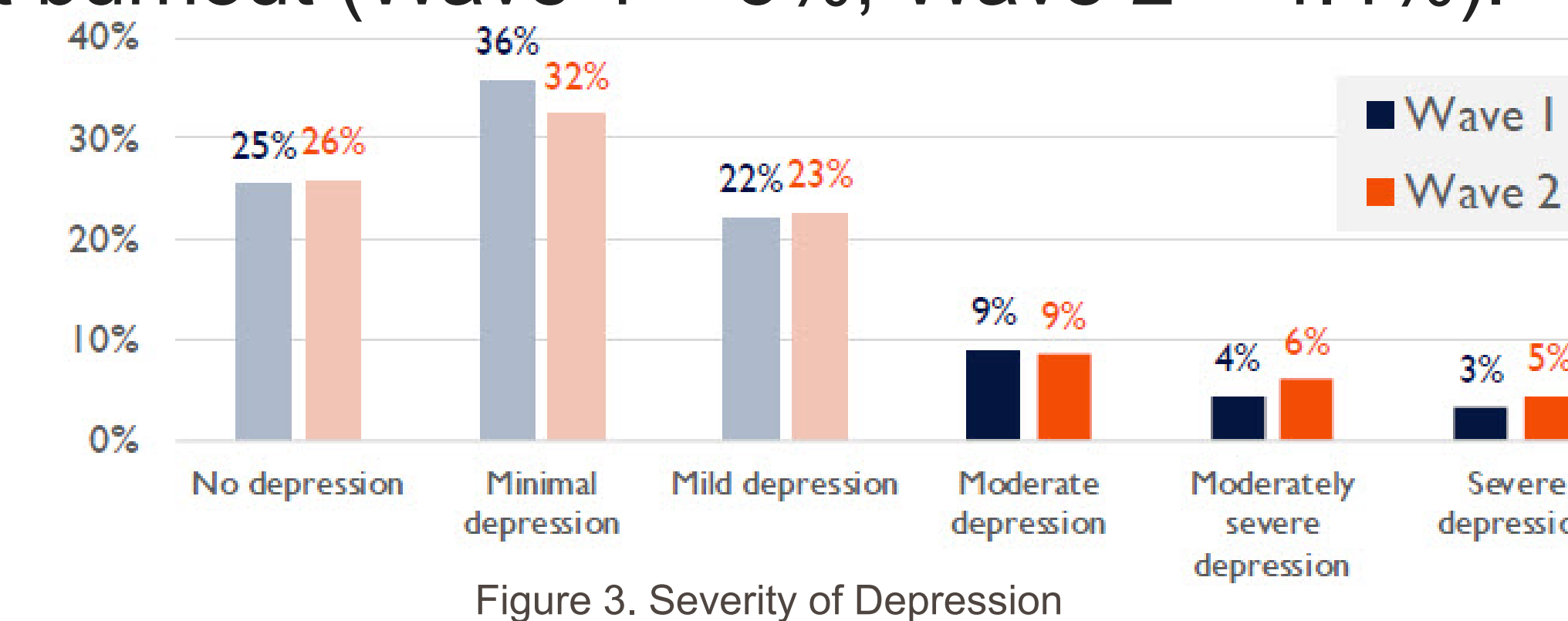


Figure 4: Structural Model for Depression

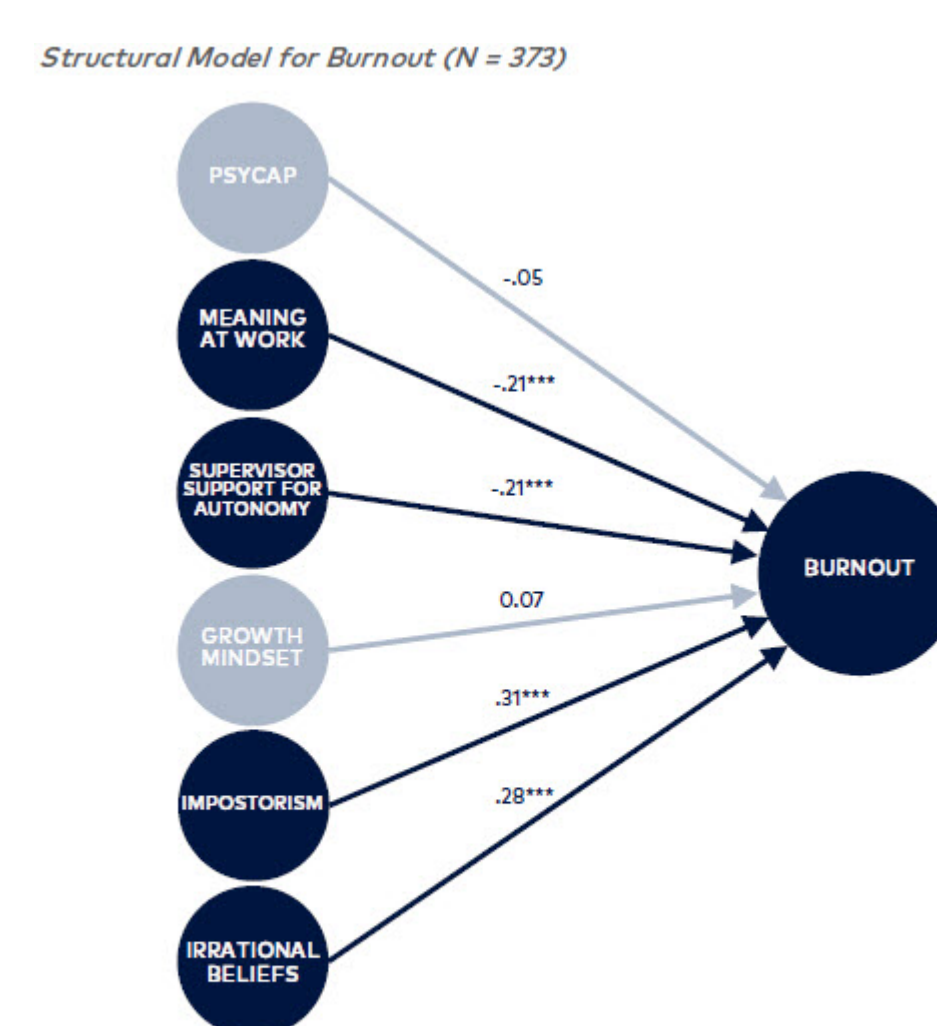


Figure 5: Structural Model for Burnout

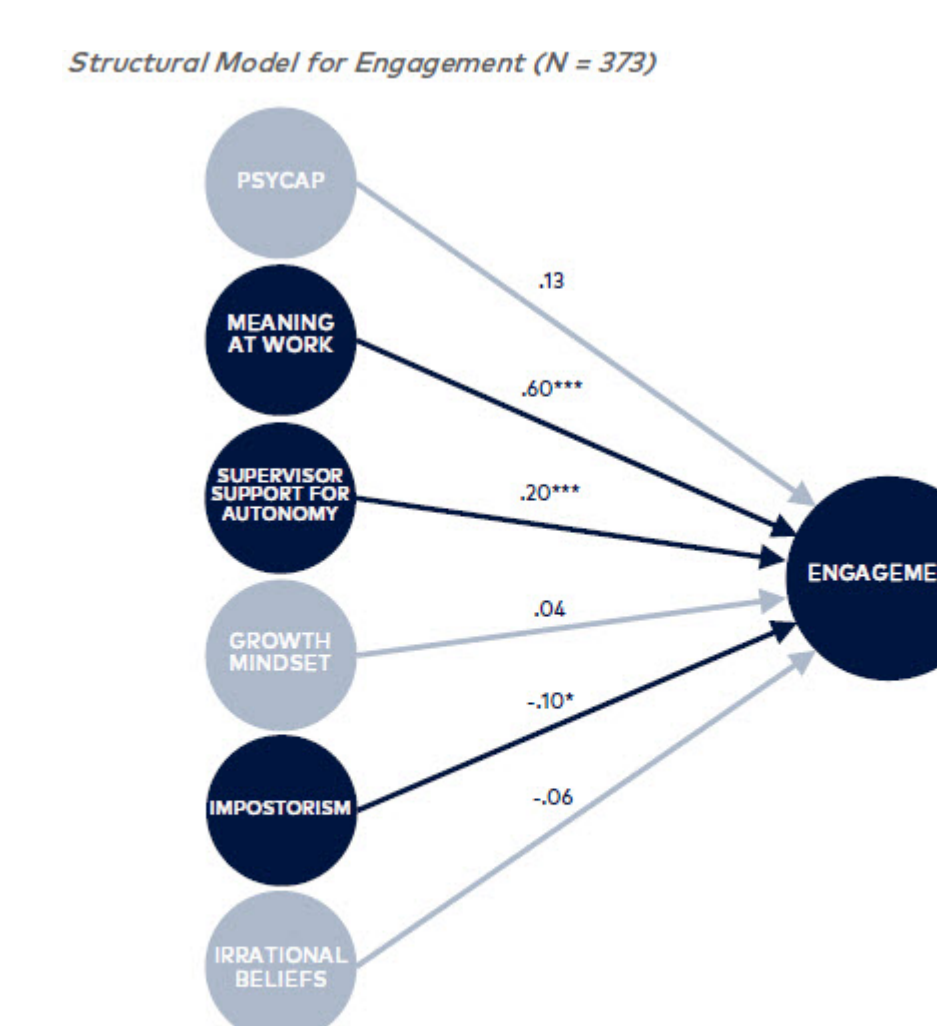


Figure 6: Structural Model for Engagement

Meaningful work and supervisor support for autonomy were again strong cross-sectional predictors of well-being (Figures 4-6). Wave 1 meaningful work also predicted all outcome variables at Wave 2 (Tables 1-3). Impostorism and irrational beliefs were strong cross-sectional predictors of depression and burnout in both waves. In cross-sectional models impostorism and irrational beliefs better accounted for depression and burnout than psychological capital. However, Wave 1 psychological capital was a strong predictor of work engagement at wave 2. Growth Mindset was not associated with any outcome variable in the cross-sectional results but in the repeated measures analysis Wave 1 growth mindset predicted Wave 2 depression and burnout. Repeated measures results differed in important ways from cross-sectional results showing the importance of longitudinal versus cross-sectional studies of resident well-being.

Predictor	B	SE	p
PsyCap	-0.06	.13	.66
Meaningful Work	-0.16*	.07	.026*
Supervisor Support	-0.02	.05	.64
Growth Mindset	-0.07*	.04	.041*
Impostorism	0.06	.09	.52
Irrational Beliefs	0.11	.10	.28

Table 1: Wave 1 Predictors of Depression at Wave 2

Predictor	B	SE	p
PsyCap	-0.09	.14	.51
Meaningful Work	-0.33***	.08	<.001***
Supervisor Support	-0.06	.06	.32
Growth Mindset	-0.11*	.05	.021*
Impostorism	0.14	.11	.21
Irrational Beliefs	-0.09	.13	.46

Table 2: Wave 1 Predictors of Burnout at Wave 2

Predictor	B	SE	p
PsyCap	0.51**	.19	.002**
Meaningful Work	0.32***	.10	<.001***
Supervisor Support	0.04	.07	.58
Growth Mindset	0.07	.06	.25
Impostorism	-0.03	.11	.78
Irrational Beliefs	0.19	.14	.18

Table 3: Wave 1 Predictors of Engagement at Wave 2

## Conclusion

Elements of our prior positive psychology model of resident wellness (Figure 7) were validated including the importance of the perception of meaningful work and supervisor support for autonomy, both of which are targets for specific interventions to improve well-being.

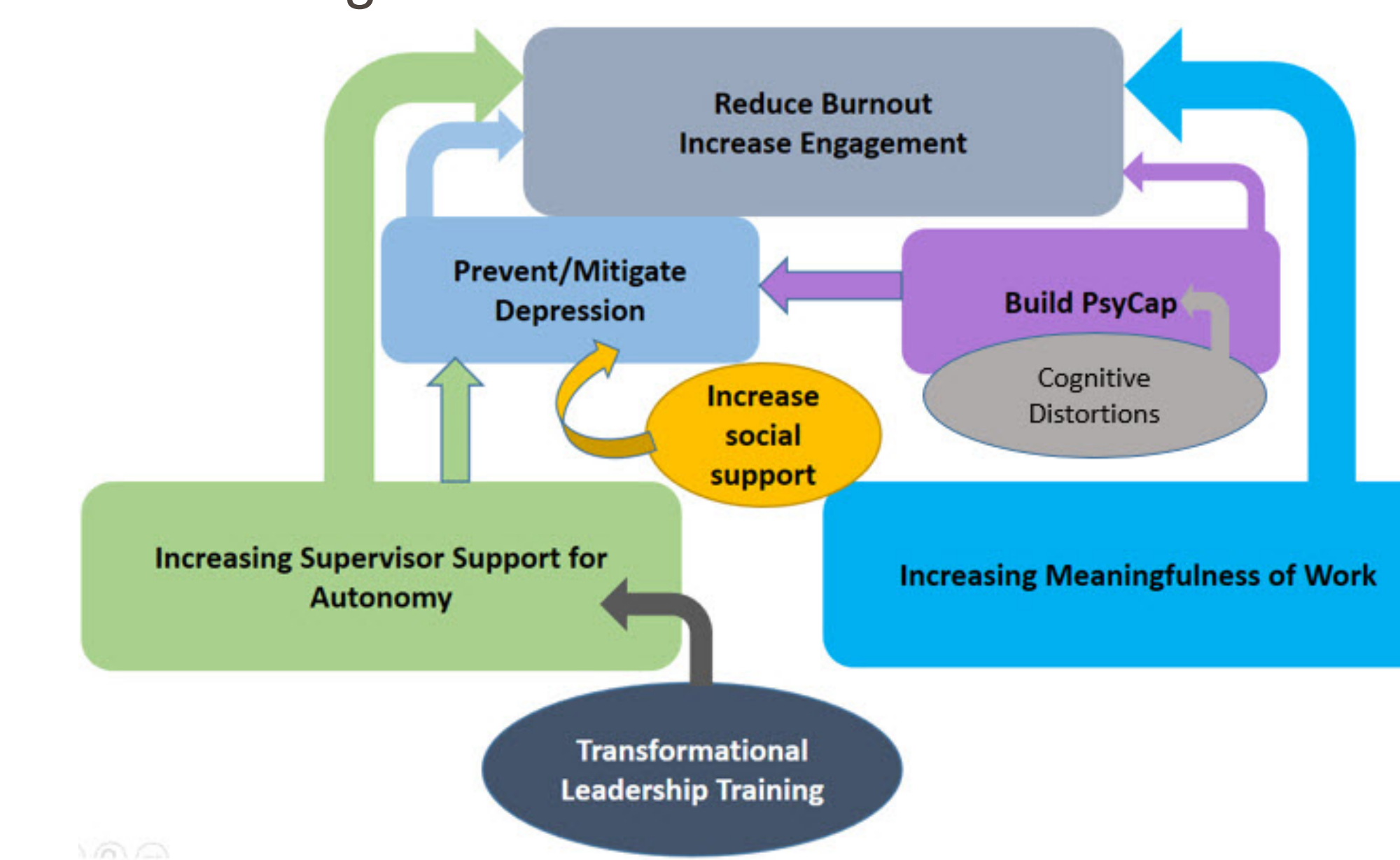


Figure 7: Positive Psychology Model of Resident Wellness

Specific methods of deliberate repeated reinforcement and magnification of the meaning of residents' work provide a low-cost high-yield intervention to combat burnout and depression and improve engagement. Similarly, institutions should consider incorporating interventions to teach supervisors how to enhance residents' perception of autonomy during their work day. Much of the variance predicted by PsyCap in the first study is accounted for by cognitive distortions when measured in the second study, suggesting that methods to combat these elements should be emphasized in interventions designed to build psychological capital. The role of growth versus fixed mindset in resident well-being remains unclear as there were no significant cross-sectional associations. Yet, Wave 1 mindset did predict depression and burnout over time. Our Wave 3 data will provide insight and assist in determining if mindset interventions would prove helpful in supporting resident flourishing.