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Understanding Engagement with a Web Intervention for Trauma using the
Health Action Process Approach (HAPA) Framework

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Abstract

Web interventions for the reduction of trauma related symptoms have been shown to be efficacious but engagement is a challenge. As the amount of engagement is linked to behavioral outcomes, understanding the factors that influence engagement may be an important step in improving their effectiveness. This study is the first to utilize the **Health Action Process Approach** as a motivational model for web intervention engagement. Trauma survivors ($N = 216$) from around the country were given access to an online theoretically based trauma recovery web intervention for two weeks. Results showed that perceived need, outcome expectations, pre-treatment self-efficacy, and symptom severity were significant predictors of intentions. Planning was shown to be an important mediator for translating intentions into action (engagement). These results reveal the importance of social cognitive predictors and planning on the level of engagement with a trauma recovery web intervention.

Background

Rapid Growth in Web Interventions

Low Usage (Eysenbach, 2005)

- Limited participation / high attrition rates
  - Common for mental health web interventions
  - Average dropout rate 60% in RCTs (Kaltenthaler, 2008)
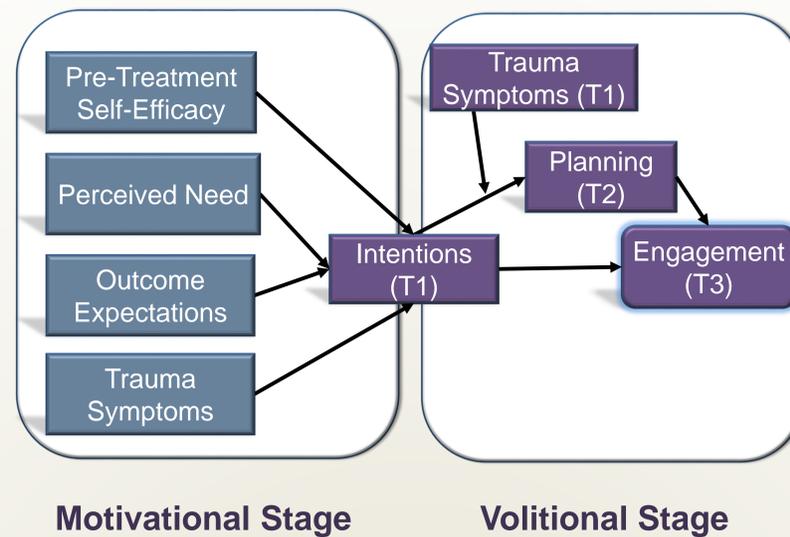 - Dropout rate for open access trials exceeds 80% (Christensen, 2006)

Increasing engagement could potentially maximize behavior change.

Recent Studies Focus on Features

- Tailoring (Strecher et al., 2008); Messaging (Couper, 2010)
- Telephone support (Dennison et al., 2014)
- Therapist support (Paxling et al., 2012)
- Social/Peer support (Poirier, 2012)
- Guidance (Baumeister, 2014)
- Interactivity / Usability / Gaming (Short et al., 2014)

Theoretical Approach
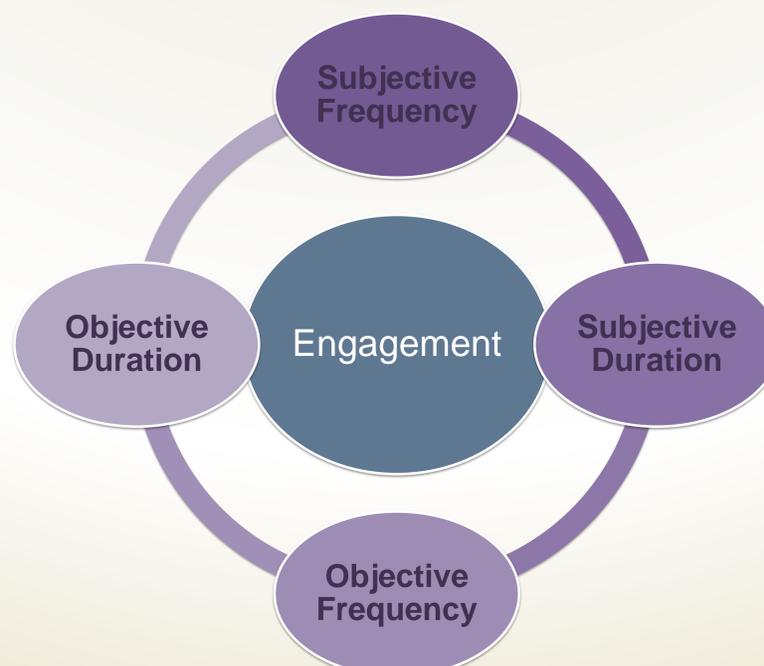
HAPA Longitudinal Research Model

Motivational Stage **Volitional Stage**

Method

Time 1 (*N* = 216)
Trauma
Given Access To Website

Time 2 (*N* = 97) 1 week
Planning / Treatment Self Efficacy

Time 3 (*N* = 55) 2 weeks
Engagement / PTSD Symptoms

Engagement Measure

Latent construct consisting of subjective and objective measures of engagement.

Results

Motivational Stage

Structural Equation Modeling - AMOS
- Explained 42% of the variance, $N = 216$
- Perceived need ($\beta = .34^{***}$)
- Outcome expectations ($\beta = .28^{***}$)
- Pre-treatment self-efficacy ($\beta = .15^{**}$)
- Trauma symptoms ($\beta = .21^{**}$)
- Excellent Model Fit
  - CFI = .995; TLI = .983, RMSEA = .044
  - *Significant predictors of intention*

$^{**}p < .01, ^{***}p < .001$

Volitional Stage

HAYES Process Approach (Hayes, 2012)
- Moderated mediation model
- For **high** levels of PTSD symptoms
- Planning mediated the effects of intention on levels of engagement.
- $\beta = .20$, 95% CI[.02, .46] ($N = 55$).

Discussion

Theoretically
- First study to look at engagement from a theoretical perspective (Morrison, 2015).

- Novel application of HAPA (Arbour-Nicitopoulos et al., 2014; Craciun, Schüz, Lippke, & Schwarzer, 2012; Luszczynska & Schwarzer, 2010)

- Extended model to include (Schwarzer, 2008):
  - Perceived Need (rather than Perceived Risk)
  - Symptom Severity

Clinically
- *Outcome Expectations* and *Perceived Need* are important predictors of intention.
  - Target through psychoeducation.

- Some individuals may benefit from additional self-regulatory strategies.
  - Planning for those with high symptom severity.

Future Studies
- Consider additional stages
  - Maintenance, Recovery

- Investigate changes in predictors over time
  - Reciprocal causation of Social Cognitive Predictors

- Apply model to other interventions

Limitations
- Sample Size T3
- Engagement Measure