

Abstract

A program of research is described, aimed at further articulating the relationship between substance use and both hope and hopelessness. Three pilot studies were completed to assess potential links between trait hope and aspects of substance use. In pilot study 1, lower trait hope scores, as assessed by the Sciola et al. (2011) scale, were linked to both higher substance use frequency and desire. In Pilot study 2, a new measure of hopelessness (HL-45) was developed for future research on substance use. In Pilot study 3, we paired the HL-45 with a new measure of substance use hopes and fears (SUHF). Greater hopelessness was associated with higher levels of hopes for ongoing substance use as well as fears of reducing or ceasing substance use. In a fourth study, the well-known SURPS measure of addiction potential was examined along with the HL-45, as possible predictors of addiction acknowledgment [MMPI-AAS] and self-reported frequency. While the SURPS showed a stronger connection with self-reported frequency, the HL-45 demonstrated a more robust set of associations with the MMPI-AAS. In a secondary analysis, we found that individuals high in addiction acknowledgment but low in substance use control, reported significantly more hopelessness, as compared those low in addiction acknowledgement and high in addiction control.

Background

Substance use is a complex problem, involving personal vulnerabilities as well as environmental challenges (Young, Rhee, Stalling, Corley, & Hewitt, 2006). Frequently cited risk factors include greater impulsivity and sensation-seeking (Woicik et al. 2019) as well as lower emotional intelligence, self-regulation problems, and indirect coping styles (Claros & Sharma, 2012; Gross & John, 2003; McConnell, Memetovic, and Richardson, 2014). In contrast, a study by Jalilian et al. (2014) suggests that hopelessness may be a critical factor in addiction to both tobacco and alcohol. A voluminous literature exists on substance use behaviors. In contrast, there is far less empirical research on hope and hopelessness. The often-cited Snyder et al. (1991) hope scale has not emerged as a robust predictor of health-related behaviors. The most widely used measure of hopelessness was published nearly five decades ago. In this context, we present a series of studies designed to further articulate links between substance use and both hope and hopelessness.

Pilot 1

Trait Hope and Substance Use

In our first pilot study, we examined links between hope and substance use in emerging adults (18 – 19 yrs.). Trait hope was assessed using the Sciola et al. (2011) scale, which includes items and subscales representing the four core elements of hope: attachment, survival, mastery, and spirituality. The sample consisted of 8 males and 27 females, between the ages of 18 and 20. Multiple dimensions of lower trait hope (mastery, survival, and nonspiritual subscales) demonstrated a stronger correlation with frequency of substance use (r values ranged from .36 to .42-, all p < .05). as compared to low Emotional Intelligence (EIQ; Wong & Law, 2004), maladaptive coping (TOS; Thompson (2006), or dysfunctional emotional regulation (ERQ; Gross & John (2003) (average r = .14, all p > .05).

Pilot 2

Development of a Multidimensional Hopelessness Scale

Ninety items were generated by a team of one faculty member and 14 advanced undergraduate Psychology students, familiar with the Sciola and Biller (2009) model of hope. A sample of 221 adults (104 males and 116 females), ranging in age from 18 to 68 (M = 29.10, SD = 9.61) was collected via Prolific Academic. The hopelessness items were factor analyzed using the Maximum Likelihood Method with a Promax (oblique) rotation. A coherent nine-factor, 45-item solution emerged. We label this new instrument the HL-45. All alphas levels met or exceeded the standard threshold of .70. The HL-45 demonstrated significant correlations with the Beck scales for depression and hopelessness.

Pilot Study 3

General Hopelessness and Specific Substance Use Hopes and Fears

In pilot study 2, we created a Substance Use Hopes and Fear Scale (SUHF) consisting of 16 items, reflecting specific attachment, survival, mastery, or spiritual concerns with beginning/continuing, or increasing substance use, or with refraining, reducing, or ceasing substance use. Four scores are generated: hopes and fears, for and against, future substance use. Below are sample items.

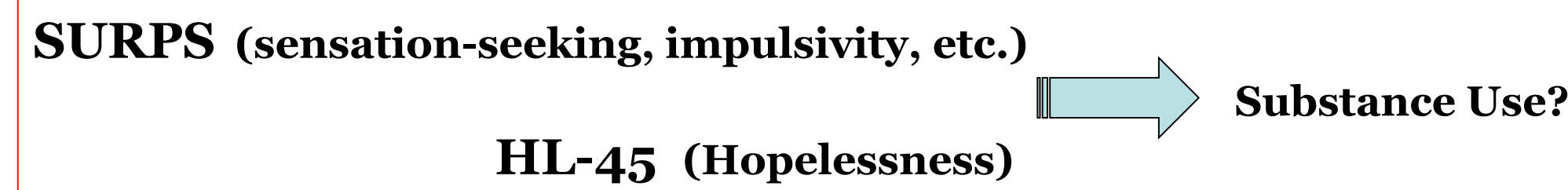
- (Attachment Hope)** If I start, continue, or increase my substance use, I will be able to maintain a good social life or an important relationship.
- (Survival Fear)** If I start, continue, or increase my substance use, I will limit my future options.
- (Mastery Hope)** If I start, reduce, or stop my substance use, I will gain power or perform better.
- (Spiritual Fear)** If I never start, reduce, or stop my substance use, I will limit my view of reality or my spiritual growth.

The SUHF was paired with our 45-item measure of trait hopelessness (See Pilot Study 2). The sample consisted of 56 females and 8 males (ages 18 – 19, M = 18.56, SD = .50).

We found a positive correlation between specific hopes for starting, continuing or increasing substance use and greater trait hopelessness (r = .29, p < .05). In addition, we found a significant positive correlation between fear of refraining, reducing, or terminating substance use and trait hopelessness (r = .45, p < .01).

Focus of Primary Study Hopelessness vs. Substance Use Risk Potential Scale (SURPS)

Our primary study compared the the well-known SURPS measure of addiction potential, and the HL-45, as possible predictors of addiction acknowledgment [MMPI-AAS] and self-reported substance use frequency. In short, our goal was to compare the relative strength of association between two commonly used substance use parameters and two different sets of presumed risk factors, as depicted below.



Method

- We integrated the hopelessness model of Sciola et al. (2017), emphasizing the nine subscales, Alienation, Doomed, Powerless, Uninspired, Captative, Helplessness, Forsaken, Limited, and Oppression, with the Substance Use Risk Potential (Surps) Woicik et al. (2019).
- Surps consist of four subscales, Hopelessness, Impulsivity, Sensation Seeking and Anxiety Sensation. We examined the correlation between subscales of hopelessness and Surps.
- We also integrated a substance use frequency scale that measures peoples drug use over the past three month on a Likert scale of 1-5, Never, monthly, weekly, once or twice, or daily and the Addiction Acknowledgement Scale (AAS).
- In this research we examined the frequency as a direct measurement of substance use and the AAS as an indirect measurement. We use these measurements to examined the correlation between hopelessness with Frequency and AAS and Surps with frequency and AAS.
- Finally we examined the weight of frequency and of the Surps on the AAS.
- Our samples consist of 128 people (F:96, M:32) ages 18-22. Participants were gathered off of Prolific Academic.

Table 1: Correlation of Hopelessness-45 compared to Substance Use Risk Prevention Scale (SURPS)

		Surps Anxiety	Surps Impulsivity	Surps Sensation Seeking	Surps Hopelessness	Surps Total
	Hopelessness Total	.38**	.09	-.24*	.80**	.52**
Pure Form	Hopelessness Alienation (a)	.17	.06	-.19*	.58**	.30**
	Hopelessness Doomed (s)	.45**	.15	-.20**	.69**	.54**
	Hopelessness Powerless (m)	.34**	-.11	-.34**	.77**	.35**
Blended Form	Hopelessness Forsaken (a, s)	-.13	.10	.12	.32**	.22*
	Hopelessness Uninspired (a, m)	.02	-.01	-.03	.48**	.24*
	Hopelessness Helpless (s, m)	.52**	.01	-.38**	.47**	.29*
	Hopelessness Captive (s, a)	.13	.25**	-.07	.43**	.36*
	Hopelessness Oppression (m, a)	.19	.05	-.07	.45**	.34*
	Hopelessness Limited (m, s)	.49**	.01	-.25**	.62**	.46*

Pilot

In two studies we demonstrated significant links between hope and substance use. In study one, the data point to the role of three dimensions of hope (attachment, survival, and mastery) with respect to various aspects of substance use (frequency, urges, negative consequences, and responsibility failures). Spiritualized hope was not a factor in our sample of emerging adults. In study two, generalized (trait) hopelessness was associated with both hopes and fears regarding substance use. Further research is needed on the role of generalized hopelessness in substance use as well as specific hopes and fears that may precipitate ongoing addiction or prevent recovery.

Study

In this study we demonstrated significant positive correlations between Surps Anxiety Sensation and Hopelessness Doomed, Powerless, Helpless, Limited, and Total Hopelessness Scale. This study also showed negative correlations between Surps sensation seeking with hopelessness powerless and limited. Surps Hopelessness correlated positively with all our 9 scales and are total scale of hopelessness. Surps Total positively correlates with all scales of hopelessness. During the second examination we examined the correlation between sensation and substance use and found a positive correlation between frequency. Table 4 also found a positive correlation between sensation seeking and Surps Impulsivity with the AAS scale. The AAS scale also positively correlated with Hopelessness Alienation, Forsaken, captative, and doomed. AAS negatively correlated with Hopelessness Helpless scale. Due to AAS correlation with both Hopelessness and Surps we also conducted a multiple regression with Sensation seeking and forsaken and found that Hopelessness forsaken had slightly more weight than sensation seeking

Table 2: Comparison of Hopelessness and SURPS with reported SU frequency & Addiction Acknowledgment

	Frequency	MMPI – AAS
Surps Total	.18	-.33
Surps Anxiety	-.11	-.05
Surps Impulsivity	.19	.31**
Surps Sensation Seeking	.40**	.34**
Surps Hopelessness	-.14	-.08
<i>Hopelessness Total</i>	-.09	.19
<i>Hopelessness Alienation</i>	-.01	.30**
<i>Hopelessness Doomed</i>	-.13	.13
<i>Hopelessness Powerless</i>	-.17	-.02
<i>Hopelessness Forsaken</i>	-.19	.34**
<i>Hopelessness Uninspired</i>	-.01	.13
<i>Hopelessness Helpless</i>	-.29*	-.22*
<i>Hopelessness Captive</i>	.058	.24*
<i>Hopelessness Oppressed</i>	-.03	.26**
<i>Hopelessness Limited</i>	-.17	.05

Table 3: Regression & AAS (Hopelessness vs. SURPS)

Criterion	Forward Regression: Predictors in Final Model	Standardized Beta	R ² Change (Incremental Validity ?)	R ² Change
MMPI Addiction Acknowledgment	SURPS – Sensation Seeking	.36		
	Hopelessness – Alienated	.35	Yes	.134
	SURPS – Impulsivity	.22	Yes	.046
	[Forsaken – Excluded]			
	Multiple R = .54 (R ² = .29)			

Table 4: Secondary Analysis Low Control-High AAS versus High Control-Low AAS

Measure	Sub Group	M	SD	N	t	df	p	d
SURPS Sensation Seeking	Low AAS – High Control	15.50	3.67	18	.30	32	.765	
	High AAS – Low Control	15.88	3.56	16				
SURPS Impulsivity	Low AAS – High Control	12.00	2.93	18	2.17	32	.038	.75
	High AAS – Low Control	13.94	2.17	16				
Hopelessness Alienation	Low AAS – High Control	15.22	4.18	18	1.74	32	.092	
	High AAS – Low Control	18.13	4.94	16				
Hopelessness Forsaken	Low AAS – High Control	10.28	3.49	18	3.10	32	.004	1.05
	High AAS – Low Control	15.31	5.83	16				

Contact Information

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Discussion