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# Thwarted Belongingness In Relation To Face-To-Face and Online Interactions

Fallon B. Moberg

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The University of Southern Mississippi

THWARTED BELONGINGNESS IN RELATION TO FACE-TO-FACE AND  
ONLINE INTERACTIONS

by

Fallon Moberg

A Thesis  
Submitted to the Honors College of  
The University of Southern Mississippi  
in Partial Fulfillment  
of the Requirements for the Degree of  
Bachelor of Science  
in the Department of Psychology

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## **Abstract**

Suicide has become an increasing problem, and it is ranked as the tenth leading cause of death for all ages (Centers for Disease Control and Prevention, 2012). Joiner's (2005) interpersonal-psychological theory of suicide states thwarted belongingness - the feeling of being alienated from others - and perceived burdensomeness - the feeling of being a liability to others – are the primary proximal factors leading to suicidal desire. The current study focuses on thwarted belongingness and examines its relationship to face-to-face interactions and online interactions. We hypothesized that negative face-to-face and online interactions would independently predict higher levels of thwarted belongingness. Furthermore, we hypothesized that face-to-face interactions would moderate the relationship between online interactions and thwarted belongingness, and that online interactions would moderate the relationship between face-to-face interactions and thwarted belongingness. 387 participants (79.6% female) at a southern university completed an online survey. Results only partially supported hypotheses, and only face-to-face interactions were shown to independently predict higher levels of thwarted belongingness. The findings from the study have several implications regarding the influence of face-to-face interactions on thwarted belongingness and present several new future directions for research.

Key words: suicide, thwarted belongingness, interactions, online, interpersonal-psychological theory

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## Table of Contents

Introduction.....	1
The Interpersonal-Psychological Theory of Suicide.....	1
Face-to-Face Interactions.....	2
Online Interactions.....	3
Current Study and Hypotheses.....	5
Method.....	6
Participants.....	6
Measures.....	7
Procedure.....	8
Data Analytic Procedure.....	9
Results.....	9
Selection of Covariates.....	9
Primary Analyses.....	9
Discussion.....	10
Limitations and Future Directions.....	12
References.....	15
Tables.....	19
Appendix A.....	22
Appendix B.....	23
Appendix C.....	25

## Thwarted Belongingness in Relation to Face-to-Face and Online Interactions

The current study will examine a component of the interpersonal-psychological theory of suicide (IPTS), thwarted belongingness, and its relationship to face-to-face and online interactions. Increases in suicidal ideation and suicide attempts have been linked to negative interactions (Hirsch & Barton, 2011; Mavandadi, Rook, Newsom, & Oslin, 2013), as well as low levels of social support and thwarted belongingness (Van Orden et al., 2008a; You, Van Orden, & Conner, 2011). In addition, online interactions have been shown in several studies to be related to suicidal ideation (Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2008; Klomek, Sourander, & Gould, 2010; Schenk & Fremouw, 2012), including components of the IPTS (Moberg & Anestis, 2014).

### **The Interpersonal-Psychological Theory of Suicide**

As mentioned previously, suicide has become a significant issue throughout the U.S. With 38,285 deaths by suicide in the U.S. during 2011 (Hoyert & Xu, 2011) and an estimated 25 attempts for every death by suicide, it is obvious that further understanding about how suicidal desire develops and possible preventative strategies would benefit many individuals (Centers for Disease Control and Prevention, 2012). One theory that has gained substantial empirical support as a lens through which to consider suicidality is Joiner's (2005) interpersonal-psychological theory of suicide. Joiner's (2005) theory consists of three components that must be present in order for an individual to have a lethal or near lethal suicide attempt. The first two are cognitive components that produce the desire for suicide: thwarted belongingness, in which an individual feels disconnected with those around them, and perceived burdensomeness, in which an individual feels he or she is a liability to those closest to them. The final component that must be present is known as acquired capability, which is the ability to persist through physical and



psychological distress in order to perform lethal self-harm (Joiner, 2005). Joiner's theory has been shown to be a useful framework in the prediction of suicidal behavior (Van Orden, Cukrowicz, Witte, & Joiner, 2012; Van Orden, Witte, Gordon, Bender, & Joiner, 2008b) and is generalizable to several different populations (Bryan, 2011; Marty, Segal, Coolidge, & Klebe, 2012; O'Keefe, et al., 2013; Van Orden et al., 2012). The current study seeks to examine effects of both face-to-face interactions and online interactions on the cognitive component of thwarted belongingness.

### **Face-to-Face Interactions**

While few studies have examined the relationship between possible face-to-face interactions and thwarted belongingness (Van Orden et al., 2008b; You et al., 2011), several studies have examined associations between suicidality and interactions (Hirsch & Barton, 2011; Mavandadi et al., 2013), as well as depression and interactions (Stafford et al., 2011). Most studies have found negative social interactions influence suicidality; however, results are mixed as to whether positive social interactions influence suicidality (Hirsch & Barton, 2011; Mavandadi et al., 2013). Social support has been shown to be negatively associated with suicidal thoughts and behavior in college students while negative social interactions have been shown to be positively associated with suicidal thoughts and behavior (Hirsch & Barton, 2011). In a study examining veterans, positive social exchanges were not related to suicidal ideation; however, negative social exchanges, particularly neglect or rejection, were positively associated with suicidal ideation (Mavandadi et al., 2013). Stafford et al. (2011) found both positive and negative social exchanges were associated with depressive symptoms. These studies support the

need to examine negative interactions in relation to suicidal ideation, particularly the component of thwarted belongingness.

Furthermore, a small number of studies have examined how thwarted belongingness and low social support may be related to increases in suicidality (Van Orden et al., 2008b; You et al., 2011). One study examined the effect of different levels of social connectedness over summer, spring, and fall semesters, and how this may be associated with increases in suicidal ideation. Thwarted belongingness was shown to mediate the association between suicidal ideation and different semesters, illustrating changes in suicidal ideation throughout the year may be driven by lower or higher levels of thwarted belongingness (Van Orden et al., 2008b). Another study examined how low levels of social connectedness, such as thwarted belongingness, living alone, and perceived social support, affected suicidal ideation and suicide attempts in individuals with substance-abuse. Living alone, higher levels of thwarted belongingness, and lower levels of perceived social support were all found to be positively associated with suicide attempts, although only higher levels of thwarted belongingness and lower levels of perceived social support were associated with suicidal ideation (You et al., 2011). These studies suggest there is a relation between negative interactions, thwarted belongingness, and increased suicide risk.

### **Online Interactions**

Internet use, including social networking site (SNS) use, has become a prominent aspect in the everyday lives of many individuals, with approximately 85% of individuals over the age of 18 using the internet (Pew Internet & American Life Project, 2013). Forty-eight percent of internet users also indicate they engage in SNS activities during a

typical day (Pew Internet and American Life Project, 2012). While there are currently few studies examining the influence of online interactions on aspects of the IPTS, several studies point to a possible link between suicidal ideation and online interactions (Davila, et al., 2012; Klomek et al., 2008; Klomek et al., 2010; Moberg & Anestis, 2014; Schenk & Fremouw, 2012). With the continued growth of these activities, the likelihood such activities will have an influence on suicidal desire has increased.

In the most direct test of the link between online interactions and thwarted belongingness, Moberg & Anestis (2014) found that increased levels of thwarted belongingness were not only associated with more negative interactions on SNSs, but were also associated with a preference for online social interaction (POSI). Several other components of problematic internet usage (e.g., cognitive preoccupation with internet usage) have been associated with both thwarted belongingness and perceived burdensomeness (Moberg & Anestis, 2014), and components of generalized problematic internet usage has been associated with broader psychopathology such as loneliness and depression (Caplan, 2003; Caplan, 2010). POSI has been shown to be negatively associated with self-presentational skill (Caplan, 2005), in addition to moderating the effects between negative outcomes associated with internet use and broad psychopathology (Caplan, 2003). These factors may contribute to individuals with POSI feeling more isolated from those around them.

Furthermore, online interactions have also been linked to suicidal ideation in several studies, especially when quality of SNS interactions and cyberbullying come into play (Davila, et al., 2012; Klomek et al., 2008; Klomek et al., 2010; Moberg & Anestis, 2014; Schenk & Fremouw, 2012). Cyberbullying victims have been shown to have

increased levels of suicidal ideation (Klomek et al., 2008; Klomek et al., 2010; Schenk & Fremouw, 2012). Although related to traditional bullying, cyberbullying is believed to be distinct from traditional bullying because it may have differences in basic aspects common in traditional bullying such as repetition and power imbalance (Dooley, Pzyalski, & Cross, 2009). In addition to the association between cyberbullying and higher levels of suicidal ideation, depressive symptoms have been linked to quality of social networking interactions (Davila, et al., 2012). These studies demonstrate online interactions may affect suicidal ideation in individuals, and negative interactions online may make individuals feel isolated from those around them. Since online interactions are likely to influence suicidal desire and are distinct from face-to-face interactions, the effects of both face-to-face interactions and online interactions on aspects of suicidal desire should be taken into account. Developing a clearer understanding of the relationship between face-to-face interactions, online interactions, and thwarted belongingness would be an important step in understanding distinct paths towards suicide risk.

### **Current Study and Hypotheses**

The current study seeks to examine the relationship between thwarted belongingness, face-to-face interactions, and online interactions. The first hypothesis is that negative interactions—either face-to-face or online—will independently predict levels of thwarted belongingness. Specifically, it is predicted both face-to-face and online interactions will contribute unique variance in thwarted belongingness even when controlling for the other type of interaction and important variables such as depression. The second hypothesis is that face-to-face interactions will moderate the relationship

between negative online interactions and thwarted belongingness. It is predicted more negative interactions face-to-face will strengthen the relationship between higher levels of negative online interactions and thwarted belongingness, although negative online interactions will be significantly associated with thwarted belongingness at all levels of face-to-face interactions. The third hypothesis is that online interactions will moderate the relationship between negative face-to-face interactions and thwarted belongingness. Similar to the previous hypothesis, it is believed more negative online interactions will strengthen the relationship between higher levels of negative face-to-face interactions and thwarted belongingness, although face-to-face interactions will be significantly associated with thwarted belongingness at all levels of online interactions. Therefore, it is predicted the strength of the relationship between both types of interactions and thwarted belongingness will depend on the level of negativity of the alternate type of interaction.

## **Method**

### **Participants**

Participants ( $n = 387$ ) in the study were recruited from a population of undergraduate students at a mid-sized southern university. The mean age for the sample was 21.31 ( $SD = 5.45$ ) with ages ranging from 18 to 58. 19.9% ( $n = 77$ ) of the participants were male and 79.6% ( $n = 308$ ) were female. Concerning race and ethnicity, 58.7% ( $n = 227$ ) identified as White, 33.9% ( $n = 131$ ) as African American, 1.3% ( $n = 5$ ) as Hispanic or Latino, 2.6% ( $n = 10$ ) as Asian or Pacific Islander, and 3.6% ( $n = 14$ ) as other. Regarding sexual orientation, 92.8% ( $n = 359$ ) identified as heterosexual, 0.5% ( $n = 2$ ) as homosexual/gay male, 1.8% ( $n = 7$ ) as homosexual/lesbian female, 3.1% ( $n = 12$ )

as bisexual, and 1.6% ( $n = 6$ ) as other. Further demographic information can be found in Table 1.

A number of participants were not included in the data analyses. 38 participants were not included because they indicated they did not use the internet to communicate with others. 106 participants answered 2 or more validation questions incorrectly and were not included in the analyses. Validation questions asked participants to select a particular answer (*e.g. Please select 4 as your answer.*)

## Measures

**Friendship Quality Questionnaire (FQQ; Parker & Asher, 1993).** A 17-item version of the FQQ for college students was used to examine the quality of online and face-to-face interactions. This version was previously used by Ranney and Troop-Gordon (2012) and consists of four subscales: validation and caring, intimate exchange, help and guidance, and conflict and betrayal. The FQQ was administered twice during the survey, once in relation to an individual's overall quality of online interactions and once in relation to an individual's overall quality of face-to-face interactions. Each question was rated on a 5 – point scale, with 1 (*Not at all true for me*), 2 (*A Little True*), 3 (*Somewhat True*), 4 (*Mostly True*), and 5 (*Really True*). The alpha coefficient for the face-to-face version of the FQQ was .94 and the alpha coefficient for the online version of the FQQ was .91.

**Depression Anxiety and Stress Scale – 21 (DASS – 21; Lovibond & Lovibond, 1995).** The DASS – 21 measures self-reported levels of depression, anxiety, and stress over the past 7 days. Each of these three subscales includes seven items. It is a shortened version of the DASS – 42 and has a 4 – point scale, ranging from 0 (*did not apply to me*

*at all*) to 3 (*applied to me very much or most of the time*). The DASS – 21 has been shown to have good internal consistency as well as good construct, convergent, and divergent validity (Henry & Crawford, 2005). In this study, the depression subscale served as a covariate. The alpha coefficient for the DASS – 21 was .87.

**Interpersonal Needs Questionnaire – 15** (INQ – 15; Van Orden et al., 2008b, 2012). The INQ – 15 measures levels of thwarted belongingness, the feeling of being alienated from others, and perceived burdensomeness, the feeling of being a liability to others. The subscales consist of 9 and 6 items, respectively. Each item is rated on a scale from 1 (*Not at all true for me*) to 7 (*Very true for me*). Joiner (2005) hypothesized these two cognitive components lead to suicidal desire and put individuals at risk for suicidal behavior. Van Orden et al. (2008b) found high levels of perceived burdensomeness and thwarted belongingness interact to significantly predict suicidal ideation. The INQ – 15 has also been shown to have good construct validity, reliability, and generalizability (Van Orden et al. 2012). The current study examined only the thwarted belongingness subscale. The alpha coefficient for the thwarted belongingness subscale was .89.

### **Procedure**

The study protocol was approved by the Institutional Review Board of the University of Southern Mississippi. Participants were recruited through the psychology department's SONA research website and received SONA points for participation, which could be used to fulfill class requirements. Before taking the survey, each participant provided electronic informed consent.

## Data Analytic Procedure

We conducted one hierarchical multiple regression analysis. To test the first hypothesis that both types of interactions independently predict unique variance in thwarted belongingness, we entered the covariates in step one and examined the main effects (face-to-face and online interactions) in step two. The second and third hypothesis was examined by utilizing the same regression equation used to test the first hypothesis with the addition of the product of the predictor and moderator in step three, followed by post-hoc analyses of simple slopes. The predictors and moderator variables were grand-mean centered in order to better understand any significant two-way interaction. The outcome variable was thwarted belongingness. Simple slope analyses were utilized to examine significant interaction effects.

## Results

### Selection of Covariates

In a previous study examining components of the IPTS and social networking variables, several demographic variables and depression were shown to be related to thwarted belongingness and social networking variables. Based on this previous study, the researchers controlled for age, sex, socio-economic status, race, and depression in the current analyses.

### Primary Analyses

To test the first hypothesis, we examined the main effects of online interactions and face-to-face interactions on thwarted belongingness, while controlling for age, sex, race, socio-economic status, and depression. The overall model was significant ( $F_{(7,250)} = 26.24; p < .001$ ). In step 2, face-to-face interactions ( $\beta = -.41; p < .001; f^2 = .12$ ) but not



online interactions ( $\beta = .001$ ;  $p = .990$ ,  $f^2 = .00$ ) significantly predicted thwarted belongingness.

To test the second and third hypothesis, the researchers examined the interaction effects of both face-to-face interactions and online interactions on thwarted belongingness. The overall model was significant ( $F_{(8,249)} = 23.07$ ;  $p < .001$ ); however, the interaction effect did not significantly improve the model. As such, we did not conduct follow-up analyses of simple slopes. These results are displayed in Table 3.

### **Discussion**

The purpose of this study was to examine the relationship between online interactions, face-to-face interactions, and thwarted belongingness. We hypothesized that higher levels of negative online interactions and negative face-to-face interactions would independently predict higher levels of thwarted belongingness when controlling for the other type of interaction, depression, and demographic variables. Results were only partially consistent with this hypothesis, as only negative face-to-face interactions were significantly associated with higher levels of thwarted belongingness in the full model. We also hypothesized that negative face-to-face interactions would moderate the relationship between negative online interactions and higher levels of thwarted belongingness, and that negative online interactions would moderate the relationship between negative face-to-face interactions and higher levels of thwarted belongingness. Because the interaction effect was not significant, these hypotheses were not supported.

These findings suggest that face-to-face interactions may have a greater impact on levels of thwarted belongingness. Furthermore, it suggests that after controlling for the influence of face-to-face interactions, online interactions may not have an impact on

levels of thwarted belongingness. Because online interactions were significantly associated with thwarted belongingness when face-to-face interactions were not entered into the model, it appears that the impact of online interactions is accounted for by the broader construct of connectivity rather than the specific context on online forums.

Although the current study suggests that face-to-face interactions may be more influential than online interactions in regards to levels of thwarted belongingness, there are several possibilities that may have affected this result. Face-to-face interactions and online interactions were highly correlated ( $r = .76$ ). This indicates that individuals who were having more negative face-to-face interactions were also having more negative online interactions. This finding indicates that individuals are having similar interactions in both types of situations. One possibility is individuals in the study could be communicating with the same people online as they are offline, leading to similar interactions in both types of settings. In the current sample, only 8% of individuals indicated they primarily communicated with people they only know online. The remaining 91.5% of individuals indicated they primarily communicated with friends, family, or coworkers. If both online interactions and face-to-face interactions are very similar and reflect an overall trend in interactions, then there should be more focus on implementing strategies to improve interactions as a whole, rather than separately in the two different contexts. Furthermore, the results speak to the possibility that improving online interactions may not be sufficient to enhance an individual's sense of belongingness in the absence of improvements in problematic face-to-face interactions. Even though there is a possibility that the quality of face-to-face and online interactions reflect a trend in connectivity across modalities, further research is needed to explore the

relationship between the two types of interactions. The degree to which this point would generalize to populations for whom online interactions predominantly occur with people they rarely see on a day-to-day basis is unclear.

In future research, studies could be conducted to further explore the overall trend that possibly underlies both face-to-face and online interactions. In terms of clinical implications, this study highlights the importance of face-to-face interactions in working with individuals who are experiencing suicidal desire. Future treatments could focus on implementing strategies to help improve the quality of interactions of individuals experiencing suicidal desire, especially in relation to face-to-face interactions, which appear to be particularly important.

### **Limitations and Future Directions**

Although the current study provided a new understanding of the relationship between higher levels of thwarted belongingness and different contexts of interactions, there were several limitations which affected the study. The study was cross-sectional, which means that the causality of interactions and thwarted belongingness cannot be determined. The study also relied on self-report questionnaires, and even though the researchers took measures to ensure the accuracy of the data, participants may not be honest when answering the questions. Participants were also limited to college students and results obtained in this study may not be generalizable to other populations in which online interactions are more important or frequent.

The current study implies that face-to-face interactions influence thwarted belongingness more than online interactions do. This finding suggests that face-to-face interactions may contribute more to suicidal desire, but there may be instances in which

individuals are affected more by online interactions. Some populations may be more vulnerable to negative online interactions, such as populations that may rely on more online contact (e.g., agoraphobic individuals avoiding public places, individuals with autism spectrum disorders who rely less on the physical cues involved in face-to-face interactions) or individuals with higher preference for online social interaction. Future research could focus on examining the relationship between online interactions, face-to-face interactions, and thwarted belongingness in possible at-risk populations.

Future studies could also examine the underlying reasons why face-to-face interactions influence levels of thwarted belongingness more than online interactions do. There are many factors that could be contributing to the greater impact of face-to-face interactions, including the influence of non-verbal cues, memory related to personal events, or individual cognitive factors. Identifying mechanisms that underlie the influence of face-to-face interactions relative to online interactions may provide a better understanding of how negative interactions influence thwarted belongingness and possibly suicidal desire.

Although there are several limitations which affected the current study, the results indicated that face-to-face interactions are influential on levels of thwarted belongingness, and therefore, have furthered the understanding of how negative interactions in different settings may possibly impact suicidal desire. These findings have also presented several possible directions for future research regarding the relationship between interactions and suicidal desire. Future studies could focus on identifying populations which may be more influenced by negative online interactions or understanding factors which may affect the greater influence of face-to-face interactions.

Furthermore, the current study underscores the importance of implementing strategies to improve negative interactions among those who are experiencing suicidal desire.

## References

- Bryan, C. J. (2011). The clinical utility of a brief measure of perceived burdensomeness and thwarted belongingness for the detection of suicidal military personnel. *Journal of Clinical Psychology, 67*(10), 981-992.
- Caplan, S. E. (2003). Preference for online social interaction: A theory of problematic internet use and psychosocial well-being. *Communication Research, 30*, 625-648.
- Caplan, S. (2005). A social skill account of problematic internet use. *Journal of Communication, 55*, 721-736.
- Caplan, S. E. (2010). Theory and measurement of generalized problematic internet use: A two-step approach. *Computers in Human Behavior*(26), 1089-1097.
- Centers for Disease Control and Prevention. (2012, September 25). *Suicide: Facts at a Glance*. Retrieved from Centers for Disease Control and Prevention: [http://www.cdc.gov/violenceprevention/pub/suicide\\_datasheet.html](http://www.cdc.gov/violenceprevention/pub/suicide_datasheet.html)
- Davila, J., Hershenberg, R., Feinstein, B. A., Gorman, K., Bhatia, V., & Starr, L. R. (2012). Frequency and quality of social networking among young adults: Associations with depressive symptoms, rumination, and corumination. *Psychology of Popular Media Culture, 1*(2), 72-86.
- Dooley, J. J., Pzyalski, J., & Cross, D. (2009). Cyberbullying versus face-to-face bullying: A theoretical and conceptual review. *Journal of Psychology, 217*(4), 182-188.
- Henry, J. D., & Crawford, J. R. (2005). The short form version of the depression anxiety stress scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*(44), 227-239.

- Hirsch, J. K., & Barton, A. L. (2011). Positive social support, negative social exchanges, and suicidal behavior in college students. *Journal of American College Health, 59*, 393-398.
- Hoyert, D. L., & Xu, J. (2012). Deaths: Preliminary data for 2011. *National Vital Statistics Reports, 61*, 1-51.
- Joiner, T. E. (2005). *Why people die by suicide*. Cambridge: Harvard University Press.
- Klomek, A. B., Marrocco, F., Kleinman, M., Schonfeld, I. S., & Gould, M. S. (2008). Peer victimization, depression, and suicidality in adolescents. *Suicide and Life-Threatening Behavior, 38*, 166-180.
- Klomek, A. B., Sourander, A., & Gould, M. (2010). The association of suicide and bullying in childhood to young adulthood: A review of cross-sectional and longitudinal research findings. *The Canadian Journal of Psychiatry, 55*, 282-288.
- Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the depression anxiety stress scales*. Sydney: Psychology Foundation.
- Marty, M. A., Segal, D. L., Coolidge, F. L., & Klebe, K. J. (2012). Analysis of the psychometric properties of the interpersonal needs questionnaire (INQ) among community-dwelling older adults. *Journal of Clinical Psychology, 68*, 1008-1018.
- Mavandadi, S., Rook, K. S., Newsom, J. T., & Oslin, D. W. (2013). Suicidal ideation and social exchanges among at-risk veterans referred for a behavioral assessment. *Social Psychiatry and Psychiatric Epidemiology, 48*, 233-243.

- Moberg, F.B. & Anestis, M. D. (2014). *A preliminary examination of the relationship between social networking interactions, internet use, and thwarted belongingness*. Manuscript submitted for publication.
- O'Keefe, V. M., Wingate, L. R., Tucker, R. P., Rhoades-Kerswill, S., Slis, M. L., & Davidson, C. L. (2013). Interpersonal suicide risk for american indians: Investigating thwarted belongingness and perceived burdensomeness. *Cultural Diversity and Ethnic Minority Psychology*, 1-7.
- Parker, J. G., & Asher, S. R. (1993). Friendship and friendship quality in middle childhood: Links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Developmental Psychology*, 611-621.
- Pew Internet & American Life Project. (2013). *Demographics of internet users*. Retrieved October 11, 2013, from Pew Internet and American Life Project:  
[http://pewinternet.org/Trend-Data-\(Adults\)/Whos-Online.aspx](http://pewinternet.org/Trend-Data-(Adults)/Whos-Online.aspx)
- Pew Internet and American Life Project. (2012). *What internet users do on a typical day*. Retrieved October 11, 2013, from Pew Internet and American Life Project:  
<http://www.pewinternet.org/Trend-Data-%28Adults%29/Online-Activities-Daily.aspx>
- Ranney, J. D., & Troop-Gordon, W. (2012). Computer-mediated communication with distant friends: Relations with adjustment during students.
- Schenk, A. M., & Fremouw, W. J. (2012). Prevalence, psychological impact, and coping of cyberbullying victims among college students. *Journal of School Violence*, 11, 21-37.



- Stafford, M., McMunn, A., Zaninotto, P., & Nazroo, J. (2011). Positive and negative social exchanges in social relationships as predictors of depression: Evidence from the english longitudinal study of aging. *Journal of Aging and Health, 23*, 607-628.
- Van Orden, K. A., Cukrowicz, K. C., Witte, T. K., & Joiner, T. E. (2012). Thwarted belongingness and perceived burdensomeness: Construct validity and psychometric properties of the interpersonal needs questionnaire. *Psychological Assessment, 24*(1), 197-215.
- Van Orden, K. A., Witte, T. K., Gordon, K. H., Bender, T. W., & Joiner, T. E. (2008b). Suicidal desire and the capability for suicide: Tests of the interpersonal-psychological theory of suicidal behavior among adults. *Journal of Consulting and Clinical Psychology, 76*(1), 72-83.
- Van Orden, K. A., Witte, T. K., James, L. M., Castro, Y., Gordon, K. H., Braithwaite, S. R., . . . Joiner, J. T. (2008a). Suicidal ideation in college students varies across semesters: The mediating role of belongingness. *Suicide and Life-Threatening Behavior, 38*, 427-435.
- You, S., Van Orden, K. A., & Conner, K. R. (2011). Social connections and suicidal thoughts and behavior. *Psychology of Addictive Behavior, 25*, 180-184.

Table 1

*Demographic Information*

	N (%)
<b>Sex</b>	
Male	77 (19.9%)
Female	308 (79.6%)
Undeclared	2 (0.5%)
<b>Race/Ethnicity</b>	
White	227 (58.7%)
African American	131 (33.9%)
Hispanic/Latino	5 (1.3%)
Asian/Pacific Islander	10 (2.6%)
Other	14 (3.6%)
<b>Income</b>	
\$0 - \$10,000	37 (9.6%)
\$10,001 - \$25,000	45 (11.6%)
\$25,001 - \$50,000	86 (22.2%)
\$50,001 - \$75,000	93 (24.0%)
\$75,000 - \$100,000	66 (17.1%)
Greater than \$100,000	59 (15.2%)
Undeclared	1 (0.3%)
<b>Sexual Orientation</b>	
Heterosexual	359 (92.8%)
Homosexual/Gay Male	2 (0.5%)
Homosexual/Lesbian Female	7 (1.8%)
Bisexual	12 (3.1%)
Other	6 (1.6%)
Undeclared	1 (0.3%)

Table 2

*Intercorrelations and descriptives of variables*

	1	2	3	4	5	6
1. Age	-					
2. Income	**-.20	-				
3. Depression	-.07	-.03	-			
4. Face-to-face Interactions	-.10	.02	**-.31	-		
5. Online Interactions	-.05	.01	**-.31	**-.76	-	
6. Thwarted Belongingness	-.02	-.09	**-.51	**-.53	**-.44	-
Mean	21.31	-	8.05	68.74	67.09	21.87
Standard Deviation	5.45	-	8.50	12.38	11.13	10.67
Minimum	18.00	-	.00	25.00	33.00	9.00
Maximum	58.00	-	42.00	85.00	85.00	57.00

Note: \* =  $p < .05$ ; \*\* =  $p < .01$ .

Table 3

*Main effects and interactions effects of online interactions, face-to-face interactions, and thwarted belongingness*

	$R^2$	$\Delta R^2$	$t$	$\beta$
	.28			
Sex			.17	.01
Age			.95	.05
Income			-1.37	-.08
Race			-.04	-.00
Depression			9.68	**-.52
	.42	.15		
Online Interactions			.01	.00
Face-to-face Interactions			-5.50	**-.41
	.43	.00		
Online x Face-to-Face			-.97	.00

Note: \* =  $p < .05$ ; \*\* =  $p < .01$ ; SES = Annual Family Income; Race = self-reported race/ethnicity; Note = Higher scores on the INQ-25 indicated higher levels of thwarted belongingness; Higher scores on the FQQ indicated more positive interactions.

## Appendix A

### Institutional Review Board Approval Letter



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**INSTITUTIONAL REVIEW BOARD**

118 College Drive #5147 | Hattiesburg, MS 39406-0001

Phone: 601.266.5997 | Fax: 601.266.4377 | [www.usm.edu/research/institutional-review-board](http://www.usm.edu/research/institutional-review-board)

#### NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.  
Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 14031901

PROJECT TITLE: Thwarted Belongingness in Relation to Face-to-Face and Online Interactions

PROJECT TYPE: New Project

RESEARCHER(S): Fallon Moberg

COLLEGE/DIVISION: College of Education and Psychology

DEPARTMENT: Psychology

FUNDING AGENCY/SPONSOR: N/A

IRB COMMITTEE ACTION: Expedited Review Approval

PERIOD OF APPROVAL: 03/27/2014 to 03/26/2015

**Lawrence A. Hosman, Ph.D.**  
Institutional Review Board

## Appendix B

### Informed Consent Form

#### Online and Face-to-Face Interactions Informed Consent Form

**Consent is hereby given to participate in the study titled:**

**1. Purpose:** The purpose of this study is to investigate the relationship between an individual's online interactions and suicidal desire. The results of this study will help researchers understand the degree to which online interactions may affect aspects of suicidal desire.

**2. Description of Study:** Participation in this study will take approximately 1 hour of your time and can be completed entirely online. Accordingly, you will be awarded one (1) research credit, which will be posted to your account on the SONA Website.

A total of approximately 500 USM students will participate in this study, conducted online, over a series of one or two semesters. During this study, you will complete a brief series of questionnaires that will ask about different aspects of your personality and psychological functioning, your past history of certain behaviors, and a few questions about your background characteristics, such as age, gender, and ethnicity.

**3. Benefits:** By participating in this study, you will earn one (1) experimental research credit, which will either count towards your required research credit, or extra credit, as specified by your instructor. There are no other tangible benefits or compensation for participating in this study.

**4. Risks:** Some of the questions in the survey deal with personal matters and it is possible that you may experience some discomfort while responding to them. If you experience distress as a result of the questionnaires and would like to seek counseling, the following free or low cost services are available for students: Student Counseling Services (601-266-4829), USM Psychology Clinic (601-266-4588), and Community Assessment and Counseling Clinic (601-266-4601). Additionally, if you experience any thoughts of suicide, you can call the National Suicide Prevention Lifeline at (800-273-TALK) for free, anonymous, 24-7 help. However, please keep in mind that your responses will be completely anonymous. In addition, if there are specific questions that you do not feel comfortable answering, you are free to skip those questions. Skipping such questions will in no way affect the credit you receive for participation. Further, if you become so distressed that you wish to drop out of the study, you may do so without losing credit for the time you spent participating.

**5. Anonymity:** This consent form will be signed electronically via a checkbox at the bottom of the screen if you choose to participate in this study. If you participate, you will be asked to provide your name which we have to have in order to post your research credit

to your SONA account. However, once your credit is posted and verified, your name will be deleted from the database, so your questionnaire responses will be rendered anonymous. No other personally identifying information will be recorded and, as such, all of your answers will be entirely anonymous.

**6. Alternative Procedures:** Research participation credit for General Psychology courses can also be obtained by writing summaries of psychology journal articles, or other alternative learning experiences, as detailed by your instructor. You may also participate in other research studies listed on SONA, other than this one, if others are available

**7. Participant's Assurance:** Strong efforts are made for this study to be designed according to high scientific standards. Participation in this study is voluntary, and participants may withdraw from this study at any time without penalty, prejudice, or loss of benefits. Questions concerning the research should be directed to Dr. Mike Anestis, available by email at michael.anestis@usm.edu and by phone at (601) 266-6742.

**8. Signatures:** By signing below, you are verifying the following: (a) you have read and understand the explanation provided to you, (b) you have had all of your questions answered to your satisfaction, (c) you voluntarily agree to participate in this study, (d) **you are at least 18 years of age**, and (e) you have printed a copy of this form for your own records (if desired).

		_/_/_
<b>Signature of Research Participant</b>		<b>Date</b>
		_/_/_
<b>Signature of Researcher</b>		<b>Date</b>

*This project and this consent form have been reviewed by the Institutional Review Board of The University of Southern Mississippi, which ensures that research projects involving human subjects follow federal guidelines. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, Box 5147, Hattiesburg, MS 39406, (601) 266-6820. A copy of this form will be given to you, the research participant.*

## Appendix C

### List of Survey Scales and Demographic Questions

#### Demographic Questions

1. What is your name (as it appears on SONA, SOAR, etc...)? We need this information in order to provide you with research credit; however, your name will not be downloaded with your data.
2. What is your sex?
  - Male
  - Female
3. What is your age?
4. What is your family's annual income?
  - \$0 - \$10,000
  - \$10,001 - \$25,000
  - \$25,001 - \$50,000
  - \$50,001 - \$75,000
  - \$75,001 - \$100,000
  - Greater than \$100,000
5. What is your race?
  - White
  - African American
  - Hispanic/Latino
  - Asian/Pacific Islander
  - Other
6. What is your sexual orientation?
  - Heterosexual
  - Homosexual/Gay male
  - Homosexual/Lesbian female
  - Bisexual
  - Other



DASS-21

Please read each statement and choose the number which indicates how much the statement applied to you over the past week. There are no right answers or wrong answers. Do not spend too much time on any statement.

0 (Did not apply to me at all)

1 (Applied to me to some degree, or some of the time)

2 (Applied to me to a considerable degree, or a good part of the time)

3 (Applied to me very much, or most of the time)

1. I found it hard to wind down
2. I was aware of dryness in my mouth
3. I couldn't seem to experience any positive feeling at all
4. I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion)
5. I found it difficult to work up the initiative to do things
6. I tended to over-react to situations
7. I experienced trembling (e.g., in the hands)
8. I felt that I was using a lot of nervous energy
9. I was worried about situations in which I might panic and make a fool of myself
10. I felt that I had nothing to look forward to
11. I found myself getting agitated
12. I found it difficult to relax
13. I felt down-hearted and blue
14. I was intolerant of anything that kept me from getting on with what I was doing
15. I felt I was close to panic
16. I was unable to become enthusiastic about anything
17. I felt I wasn't worth much as a person
18. I felt that I was rather touchy
19. I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat)
20. I felt scared without any good reason
21. I felt that life was meaningless

### Validation Questions

These questions will ask participants to select a certain answer choice to ensure accuracy of data.

Please select 1 as your answer.

Please select 4 as your answer.

Please select 2 as your answer.

INQ – 25

\*Note only the 15 items from the INQ-15 are scored\*

The following questions ask you to think about yourself and other people. Please respond to each question by using your own current beliefs and experiences, NOT what you think is true in general, or what might be true for other people. Please base your responses on how you've been feeling recently. Use the rating scale to find the number that best matches how you feel and circle that number. There are no right or wrong answers: we are interested in what you think and feel.

1	2	3	4	5	6	7
Not at all true for me			Somewhat true for me			Very true for me

1. These days the people in my life would be better off if I were gone.
2. These days I think I give back to society.
3. These days the people in my life would be happier without me.
4. These days I think I have failed the people in my life.
5. These days I think people in my life would miss me if I went away.
6. These days I think I am a burden on society.
7. These days I think I am an asset to the people in my life.
8. These days I think my ideas, skills, or energy make a difference.
9. These days I think my death would be a relief to the people in my life.
10. These days I think I contribute to the well-being of the people in my life.
11. These days I feel like a burden on the people in my life.
12. These days I think the people in my life wish they could be rid of me.
13. These days I think I contribute to my community.
14. These days I think I make things worse for the people in my life.
15. These days I think I matter to the people in my life.
16. These days, other people care about me.
17. These days, I feel like I belong.
18. These days, I rarely interact with people who care about me.
19. These days, I am fortunate to have many caring and supportive friends.
20. These days, I feel disconnected from other people.
21. These days, I often feel like an outsider in social gatherings.
22. These days, I feel that there are people I can turn to in times of need.
23. These days, I feel unwelcome in most social situations.
24. These days, I am close to other people.
25. These days, I have at least one satisfying interaction every day.

### Friendship Quality Questionnaire

This questionnaire will be given twice during the survey, once in relation to an individual's face-to-face interactions and once in relation to their online interactions.

Directions for face-to-face interactions:

Please read the following statements and answer considering your interactions with friends face-to-face. Face-to-face interactions are interactions which happen in-person. Face-to-face interactions DO NOT include interactions through text messaging or internet. Face-to-face friends do not include romantic relationships or family members. Please read each item in the list carefully. Indicate how true each statement is, in general, for you and your face-to-face interactions with others.

Directions for online interactions:

Please read the following statements and answer considering your interactions with friends online. Online interactions are interactions which happen via the internet (including, but not limited to, Facebook, Twitter, online games, blogging sites, etc.). Online interactions DO NOT include in-person interactions or interactions through text messages. Face-to-face friends do not include romantic relationships or family members. Please read each item in the list carefully. Indicate how true each statement is, in general, for you and your face-to-face interactions with others.

1	2	3	4	5
Not At All True	A little true	Somewhat true	Mostly true	Really true

1. My friends and I get mad at each other a lot.
2. My friends tell me I am good at things.
3. If other people are talking behind my back my friends stick up for me.
4. My friends and I make each other feel important and special.
5. My friends tell me I am smart.
6. My friends and I share our problems with each other.
7. My friends make me feel good about my ideas.
8. When I'm mad about something that happened to me, I can talk to my friends about it.
9. My friends and I argue a lot.
10. When I'm having trouble figuring something out, I usually ask my friends for help and advice.
11. My friends and I always make up easily when we have a fight.
12. My friends and I fight.
13. My friends help me with things so I can get done quicker.
14. My friends and I always get over our arguments quickly.
15. My friends and I always count on each other for ideas on how to get things done.
16. My friends don't listen to me.
17. My friends and I tell each other private things a lot.