

Graduate Student Identity Salience and Mental Health

Caroline Waldbuesser
Angela M. Hosek

Through an intergroup theory lens, the current study examined the relationship between graduate student identity salience, social support, and mental health. Results indicated a negative relationship between graduate student identity salience (i.e., how strongly a graduate student identifies as being a graduate student) and depression. Further, there was a positive connection between graduate student identity salience, social support from faculty, and willingness to disclose distress. These findings demonstrate support for the influence of both social support and social identity theory on graduate student identity salience. Further, the results inform graduate programs on how to improve the experiences for graduate students in their programs.

Introduction

A report on graduate student well-being revealed that 47% of doctoral degree seeking students and 37% of master's degree seeking students had symptoms of depression (The Graduate Assembly, 2014). Graduate students often have high academic expectations and heavy workloads between coursework and teaching, which can create extra stress in their lives (Thrasher, Walker, Hankemeier, & Pitney, 2015). In fact, "graduate students are more than six times as likely to experience depression and anxiety" as the general population (Evans, Bira, Gastelum, Weiss, & Vanderford, 2018, p. 282). Yet, despite the increase in mental health problems, many graduate students persist in their programs until graduation. One explanation for this could be the graduate student's identity salience, or how central a graduate student's role as a graduate student is to their identity (Stryker, 1968). Since identity salience often motivates student behaviors, it might also motivate graduate students to stay in their programs despite struggles with mental well-being (Burke & Reitzes, 1981).

The connection between graduate student identity salience and mental health represents an understudied area of intergroup communication, which can help contribute to improving graduate student experiences with well-being. Along with understanding how intergroup communication influences graduate student identity and mental health, exploring factors that can improve graduate student anxiety, stress, and depression is paramount. Social support has been shown to improve graduate student mental health in the past by reducing the stress, anxiety, and depression levels of graduate students (Yeh & Inose, 2003). Social support happens mostly through communication and relates to social identity theory (SIT) since it promotes mutual network relations (Cobb, 1976) that can build in-group identification and positive group images (Tajfel & Turner, 1986).

One theoretical framework to understand graduate student mental health is through SIT, which suggests that group membership influences our self-concept and self-esteem (Tajfel & Turner, 1986). Further, people tend to view certain identities as more salient, meaning they are more central to who people perceive themselves to be. To this end, how strongly a graduate student identifies with their role as a graduate student may influence their experiences with their program and their well-being. Thus, using an intergroup perspective, the current study explores how identity salience impacts graduate student stress, anxiety, and depression. In addition, the current research also considers how social support from peers and faculty members' influences graduate student mental well-being and identity salience.

Further, another negative outcome of mental health issues is that the stigmatization around mental health challenges can prevent graduate students from disclosing about their mental health issues. Previous research on mental health identities recognizes that individuals with mental health disparities are often

embarrassed or ashamed to talk about their identities (Onken & Slaten, 2000). Past studies have found that identity often motivates undergraduate student behaviors (Burke & Reitzes, 1981), which could help to explain how graduate students handle their mental well-being. Additionally, willingness to disclose about mental health disparities can aid in recovery (Vogel & Wei, 2005). Yet, the stigmatization of mental health prevents people from communicating about their mental health issues (Wrigley, Jackson, Judd, & Komiti, 2005). Since graduate students have high rates of mental health problems (Evans et al., 2018), having outlets to express their mental health issues is especially prudent. Social support may help reduce the stigmatization on communicating about mental health issues (Vogel & Wei, 2005) and has been shown to help graduate students feel more comfortable talking with peers and faculty members about personal problems (Yeh & Inose, 2003). Therefore, the links between graduate student identity salience, mental health issues, willingness to disclose distress (WDD), and social support need to be understood in order to help graduate students have a more successful experience in their graduate programs. Further, it can also help departments to understand how to assist students who experience mental health issues. To explore graduate student experiences with mental health and identity, first previous research surrounding graduate student roles and intergroup theories, mental health, social support, and the communicative outcomes of graduate student roles and mental health challenges is examined. Lastly, the results of a project researching graduate student identity salience and mental health disparities is analyzed and explained.

Literature Review

Intergroup Theory and Graduate Student Roles

One framework to understand the experiences of graduate students is through an intergroup perspective. Intergroup scholarship posits that people often communicate with others based social group categorizations, depending on the context and relationship history (Tajfel & Turner, 1986). Intergroup theories explain that we create our social and personal identities based on these group categorizations (Hecht, Warren, Jung, & Krieger, 2005; Tajfel & Turner, 1986). Further, people's self-concepts and self-esteem are often influenced by group memberships (Stryker, 1968; Tajfel & Turner, 1986). One framework to understand how graduate student identity influences their experiences during graduate programs is SIT.

As explained through SIT, people tend to categorize themselves and others based on group memberships (Tajfel & Turner, 1986). Based on this framework, people tend to perceive some identities as more salient or important to them than other identities. For instance, a graduate student might perceive their identity as a graduate student as more important than other identities, making up their identity salience as a graduate student. Identity salience specifically refers to how central or important a group membership is to a person's social identity (Tajfel & Turner, 1986). In addition, identity salience includes three dimensions: centrality, ingroup affect, and ingroup ties (Cameron, 2004). *Centrality* refers to how significant a group membership is to a person. Further, *ingroup affect* describes how emotionally attached a person is to a group. Last, *ingroup ties* is whether or not a person feels that they belong in a group. Additionally, SIT posits that individuals attempt to raise their self-esteem through positive group membership, which is referred to as self-enhancement. To understand if they are a part of a group that enhances their identity, individuals will compare their in-group with similar out-groups. If a person's primary group membership is seen as negative, they will either try to leave the group or alter the negative image of the group. If an individual cannot achieve either of these, it can be detrimental to their overall self-esteem. Group membership, however, also improves self-esteem (Crabtree & Haslam, 2010). Specifically, if a person with a stigmatized identity is able to join a group of similar people, being a member of a community helps to buffer the negative impact that their stigmatized identity can have on their self-esteem. In other words, identifying with a group helped them to receive support and create a sense of belonging that increased their overall self-esteem. Since graduate students are often comparing themselves to both members of their in-groups and out-groups, SIT can help to reveal how a graduate student's identity salience influences their overall mental health.

Another important concept from SIT is social mobility, or a person's ability to move from group to another (Tajfel & Turner, 1986). The graduate student identity represents a unique form of social mobility because it offers the chance for greater mobility and social enhancement (whether a graduate student is seeking to be a professor or work in the corporate world), but only if the student successfully completes their degree. Meaning that while being a graduate student, there is little chance of social mobility, but staying a graduate student ultimately offers a greater level of mobility later on, making their identities fluid and temporary. Thus, graduate students may feel extra stress to perform the role of graduate student correctly; otherwise, their mobility could be delayed or even halted. The desire of mobility could add to graduate student mental health struggles, which the next section explores.

Graduate Student Anxiety, Depression, Stress, and Social Support

Graduate students have reported higher levels of mental health issues than the general population (Evans et al., 2018). In fact, in one study around half of the graduate students surveyed indicated that they had experienced emotional well-being issues, such as depression or stress, or reported that their friends or colleagues experienced mental health challenges (Lustig, Madon, Hyun, & Quinn, 2006). Stress, anxiety, and depression can have several negative impacts on graduate students (Baldwin, Daugherty, Rowley, & Schwartz, 1996). Graduate student mental health disparities have led to substance abuse (Newbury-Birch, Walshaw, & Kamali, 2001), high dropout rates (Lovitts & Nelson, 2000), suicide ideation (Lipson, Zhou, Wagner, Beck, & Eisenberg, 2016), and academic dishonesty (Baldwin et al., 1996). These effects may be impacted by graduate student identity salience. Stryker (1968) noted that identity salience could influence the impact identity conflict had on the person. Depending on how important graduate students feel their role in graduate school is, it may influence their stress, anxiety, and depression levels. Further, previous research has already shown that identity salience predicts levels of self-esteem (Crabtree & Haslam, 2010). Thus, it would make sense that graduate student identity salience would predict graduate student levels of stress, anxiety, and depression. Therefore, the following hypothesis is proposed:

H1: Graduate student identity salience will predict graduate student depression (1a), stress (1b), and anxiety (1c).

Related to graduate student stress, anxiety, and depression is graduate student intent to graduate (Lovitts & Nelson, 2000). In addition to academic and mental health disparities, Lovitts and Nelson found that graduate student emotional distress influenced attrition rates at doctoral programs, with most doctoral programs having a dropout rate of around 50%. Yet, another study found that when students believed they belonged at their institution, thrived as students, and believed the institution cared about them, they reported increased intentions to graduate (Ash & Schreiner, 2016). To further understand the link between anxiety, stress, depression, and graduate student intent to graduate, we explore the following research question:

RQ1: How are graduate student identity salience, depression, anxiety, stress, and intent to graduate related?

One factor that has been shown to influence graduate student levels of anxiety, depression, and stress is social support (Lawson & Fuehrer, 1989). Social support is "information leading the subject to believe that he is cared for and loved, esteemed, and a member of a network of mutual obligations" (Cobb, 1976, p. 300). Social support can come from family, academic faculty, and peers (Mallinckrodt & Leong, 1992). Receiving social support from peers has been shown to help to reduce levels of stress (Cobb, 1976; Cohen & Wills, 1985). Further, Cohen and Wills posited that social support could act as a buffer between stress and the negative impacts of stress on people.

Previous research has shown that social support can have positive impacts on graduate students (Lawson & Fuehrer, 1989; Yeh & Inose, 2003). For instance, Yeh and Inose found that social support systems for international graduate students reduced their overall amount of stress in their programs.

International students often experienced higher levels of stress because of language barriers and being in a new culture, but their stress was lowered by social support. Additionally, Mallinckrodt and Leong (1992) found that social support from peers helped to reduce international graduate student stress. For first year graduate students in general, social support moderated the relationship between their stress and satisfaction with their department (Lawson & Fuehrer, 1989). Meaning that if graduate students experienced higher levels of stress but received an appropriate amount of social support from the department, they were still highly satisfied with their program.

In addition to stress, social support has been shown to influence student depression (Wright et al., 2013). For instance, Wright and colleagues found that higher levels of social support reduced undergraduate student levels of depression. While not focused on graduate students specifically, this study provides support for the relationship between depression and social support. Further, Munir and Jackson (1997) found that for female graduate students, social support from advisors was related to graduate student anxiety. For the current study, social support from peers and faculty may be related to graduate student identity salience as well as potentially reduce levels of anxiety, depression, and stress (Mallinckrodt & Leong, 1992). Since social support creates feeling of mutual networks (Cobb, 1976), it may increase feelings of in-group connectedness and group identity salience. To explore these relationships the following hypotheses and research question are proposed:

H2: Graduate student levels of social support from faculty members will predict graduate student depression (2a), anxiety (2b), and stress (2c).

H3: Graduate student levels of social support from peers will predict graduate student depression (3a), anxiety (3b), and stress (3c).

RQ2: How are graduate student social support from peers and faculty related to graduate student intent to graduate?

Willingness to Disclose Distress

One important communicative outcome of social support, identity salience, and mental health is graduate student willingness to discuss mental health concerns with others, also referred to as distress disclosure (Kahn & Hessling, 2001). Distress disclosure represents an interesting area in communication studies because people are often conflicted as to whether they should disclose negative personal information or not (Onken & Slaton, 2000). Individuals tend to stigmatize mental health disparities, which makes others uncomfortable disclosing information about mental health problems (Eisenberg, Downs, Golberstein, & Zivin, 2009). Stigmas of mental health can include lacking social skills, being more embarrassing in public, and being undesirable to be seen with in public (Segal, Coolidge, Mincic, & O'Riley, 2005).

People who have mental health challenges often feel ashamed of their health status and do not want to discuss their issues with others because of these stigmatizations, especially with members of in-groups (Onken & Slaton, 2000). Fear of stereotypes and being treated differently than others prevents people from disclosing their mental health concerns to others. Based on the social expectations of graduate students (Thrasher et al., 2015), they may not be willing to disclose mental health issues in fear of being seen as weak by other members of their in-group. Previous intergroup research has shown that people tend to avoid disclosing stigmatized identities to members of their in-groups in order to avoid stereotypes (Onken & Slaton, 2000). Therefore, graduate student identity salience may predict if a graduate student is willing to disclose distress. To understand the relationship between graduate student identity salience and graduate student WDD, the following hypothesis is examined:

RQ3: How are graduate student identity salience and graduate student willingness to disclose distress related?

Although research has not examined how graduate students disclose mental health concerns and distress, scholars have explored how college students in general disclose distress (Wei, Russell, & Zakalik, 2005). Wei and colleagues found that self-disclosure was a mediator between depression and attachment avoidance, and if students were willing to disclose distressing information, they built better relationships and experienced less depression. Further, Vogel and Wei (2005) discovered that students who had attachment problems in college tended to perceive less social support and were not willing to disclose that they had mental health problems. This shows support for a relationship between WDD and social support. Additionally, research has indicated that if international students received more social support, it reduced their tendencies to experience mental health challenges (Mallinckrodt & Leong, 1992; Yeh & Inose, 2003). Therefore, if people are allowed to talk with others about their problems, they experience less depression, anxiety, and stress. To further understand the relationship(s) between social support, WDD, and graduate student depression, anxiety, and stress the following research questions are explored:

RQ4: How are graduate student levels of social support from faculty and peers related to student willingness to disclose distress?

RQ5: How are graduate student willingness to disclosure distress and graduate student depression, anxiety, and stress related.

Method

Participants and Procedures

To research the above hypotheses and research questions, a quantitative analysis was conducted. Volunteer and snowball sampling were used to collect data from 181 graduate students in the United States. More specifically, a questionnaire was shared on e-mail listservs, social media sites, and by asking graduate students to share the study with their peers. The sample included 95 masters level students (52.5%), 68 doctoral level students (37.6%), and 18 declined to answer (9.9%). One hundred and six of the participants identified as female (58.6%), 53 were male (29.3%), one was genderfluid (0.5%), four preferred not to answer (2.2%), and 17 did not respond (9.4%). The age range of the participants was 21-55 ($M = 28.62$, $SD = 7.98$). A 3.77 average GPA was reported with a wide variety of concentrations listed, the most common being: communication studies, media, and education. Additionally, there were 130 White/Caucasian (71.8%), 10 Asian participants (5.5%), one Native American (0.5%), seven Black/African American (3.9%), seven Hispanic/Latino (3.9%), two Multiracial (1.1%), two Asian/White (1.1%), one White/Arab (0.5%), one Japanese/Brazilian (0.5%), one selected Other (0.5%), and 19 declined to answer (10.5%).

After receiving approval from the University IRB, the participants were sent a link to an online questionnaire on Qualtrics.com assessing their graduate student identity salience, current mental health status, perceptions of social support, WDD, and intent to graduate. Demographic questions included sex, ethnicity, program level, appointment in program, major, age, year in school, and GPA. Participants were provided with a consent form at the beginning of the questionnaire, which they had to agree to before completing the study.

Instruments

Identity salience. The three-dimensional strength of identity scale measures the strength that an individual identifies with a group (Cameron, 2004; Obst & White, 2005). The three dimensions include: centrality, ingroup affect, and ingroup ties. Together, the three dimensions can be used to assess a person's identity salience for a particular group. For this study, the scale focused on how strongly a graduate student identified as being a graduate student. This measure contains 12 questions answered on a 7-point Likert-type scale ranging from 1 (*Very Strongly Disagree*) to 7 (*Very Strongly Agree*), with higher

means indicating a stronger identity salience with a group. One example question is: “I often regret being a graduate student.” For the current study, the reliability was .80 for graduate student identity salience.

Social support. This adapted version of social support scale measures how much social support graduates feel they have with peers and faculty members (Zimet, Dahlem, Zimet & Farley, 1988). It was adapted from the original to target graduate student peers and faculty members specifically. This measure contains 10 questions answered on a 7-point Likert-type scale ranging from 1 (*Very Strongly Disagree*) to 7 (*Very Strongly Agree*). The scale has two subscales, one scale for social support from peers and the other from faculty. An example question is: “My peers really try to help me.” Mean scores closer to seven indicated higher levels of social support received from peers and faculty. For the current study, the reliability for the peer scale was .94 and .91 for the faculty scale.

Depression, anxiety, and stress. The depression, anxiety, and stress scale (DASS) measures graduate students’ current levels of anxiety, depression, and stress (Lovibond, 1983). This measure contains 21 questions answered on a 4-point Likert-type scale ranging from 1 (*Did not apply to me at all*) to 4 (*Applied to me very much, or most of the time*). For this measure, higher mean scores revealed higher levels of stress, depression, and anxiety. The scale includes three subscales for anxiety, depression, and stress. One example question is: “I tended to over-react to situations.” Reliability for the current scale was .86 for the anxiety subscale, .88 for the stress subscale, .87 for the depression subscale, and .94 for the overall scale.

Distress disclosure. The distress disclosure scale measures graduate student willingness to communicate about mental health distress (Kahn & Hessling, 2001). This measure contains 12 questions answered on a 5-point Likert-Type scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*), with scores closer to five indicating more willingness to disclose distress. An example question is: “I prefer not to talk about my problems.” The reliability from the current study was .90.

Intent to graduate. The intent to graduate scale is a researcher created four-item measure examining students’ likelihood to graduate from their current program. The questions asked for responses on a 5-point Likert-type scale with answers ranging from 1 (*very unlikely*) to 5 (*very likely*), with scores closer to five indicating a higher intent to graduate. The four items were: “I will graduate from the same program I started in.” “I will transfer to a different program at the same institution to finish my degree.” “I will not finish my degree.” and “I will transfer to a different institution to finish my degree.” The Cronbach’s alpha reliability coefficient was .71.

Results

To examine the initial relationships between variables, Pearson correlations were run between graduate student identity salience, depression, stress, anxiety, intent to graduate, WDD, social support from faculty, and social support from peers. See table 1 for all correlations between variables.

Table 1
Correlations Among Scaled Variables

	1	2	3	4	5	6	7	8	
1. Intent to Graduate	--								
2. SSF	.13	--							
3. SSP	.06	.46**	--						
4. WDD	.05	.05	.16*	--					
5. Graduate Student IS	.15*	.15*	.14	.28**	--				
6. Depression	-.24**	-.23**	-.15*	-.20**	-.20**	--			
7. Anxiety	-.26**	-.12	-.04	-.04	-.07	.67**	--		
8. Stress	-.13	-.07	-.01	-.13	-.10	.71**	.76**	--	

are significant at $p < 0.05$

***Indicates that correlations are significant at $p < 0.01$*

**Indicates that correlations are significant at $p < 0.05$*

Note: Meanings for variable acronyms include: Between Intent to Graduate (IG), Social Support from Faculty (SSF), Social Support from Peers (SSP), Graduate Student Identity Salience (IS), and willingness to disclose distress (WDD)

The first hypothesis posited that graduate student identity salience would predict graduate student depression, anxiety, and stress. Correlations between the variables can be seen in table 1. To explore the hypothesis, three linear regressions were run with graduate student identity salience predicting depression (H1a), anxiety (H1b), and stress (H1c). For H1a, graduate student identity salience significantly predicted graduate student depression levels [$F(1, 176) = 7.48, p = .007, R^2 = .041, R^2_{adj} = .035$], meaning that graduate student identity salience predicted 3.5% of the variance in graduate student levels of depression. More specifically, based on the correlation results, graduate student identity salience predicted lower levels of depression. Further, for H1b, graduate student identity salience did not significantly predict graduate student reported levels of anxiety [$F(1, 176) = .77, p = .381, R^2 = .001$]. Last, the results from H1c revealed that graduate student identity salience did not significantly predict graduate student stress [$F(1, 176) = 1.85, p = .176, R^2 = .01$]. Overall, hypothesis one was partially supported with graduate student identity salience significantly predicting graduate student levels of depression.

In addition, the first research question considered how graduate student identity salience, intent to graduate, and graduate student mental health were all related. Graduate student identity salience was negatively related to intent to graduate ($r = -.15, df = 175, p = .048$). For mental health, intent to graduate had negative correlations with depression ($r = -.24, df = 176, p < .001$) and anxiety ($r = -.26, df = 176, p < .001$). Thus, these research questions showed support for a positive relationship between graduate student identity salience and intent to graduate. Last, the results demonstrated that graduate student intent to graduate was negatively related to both depression and anxiety. Post hoc analyses were conducted to see how graduate student identity salience, anxiety, and depression predicted graduate student intent to graduate. Specifically, two linear regressions were conducted. The first model examined depression and anxiety as predictors of intent to graduate. Results revealed that graduate student levels of depression and anxiety together predicted 7.4% of the variance in graduate student intent to graduate [$F(2, 175) = 7.010, p = .001, R^2 = .074, R^2_{adj} = .064$]. Interestingly, separately neither anxiety ($t = 1.803, p = .073$) nor depression ($t = 1.248, p = .214$) were significant predictors of intent to graduate. The second linear regression examined if graduate student identity salience predicted graduate student intent to graduate. Results revealed that graduate student identity salience predicted 2.2% of the variance in graduate student intent to graduate [$F(1, 175) = 3.952, p = .048, R^2 = .022, R^2_{adj} = .016$]. Overall, graduate student mental health seems to be a slightly stronger predictor of graduate student intent to graduate than graduate student identity salience.

The second hypothesis predicted that if graduate students reported higher levels of social support from faculty, they would experience less depression, anxiety, and stress. Initial correlations showed a relationship between graduate student perceived social support from faculty and depression ($r = -.23, df = 173, p = .002$). To further test H2a, a linear regression was run with social support from faculty predicting graduate student levels of depression. Results revealed that social support from faculty significantly predicted 5.2% of the variance in graduate student levels of depression [$F(1, 173) = 9.46, p = .002, R^2 = .052, R^2_{adj} = .046$]. Since anxiety (H2b) and stress (H2c) were not significantly correlated with perceived social support from faculty, further tests were not conducted using these variables (see table 1 for correlation values). Therefore, hypothesis two was partially supported with social support from faculty significantly predicting graduate student levels of depression, such that as social support from faculty increased, graduate student levels of depression decreased.

Hypothesis three explored if graduate student social support from peers predicted lower levels of anxiety, depression, and stress. Pearson correlations were used to examine the initial links between variables (see table 1). Social support from peers was approaching significance with depression ($r = -.15, df = 174, p = .050$), but was not otherwise related to anxiety ($r = -.04, df = 173, p = .123$) or stress ($r = -.01, df = 174, p = .941$). Since the correlations did not show relationships between the variables, further statistical analyses were not conducted. Overall, hypothesis three was not supported.

The second research question examined the relationships between graduate student identity salience, social support, and intent to graduate. To test these relationships, a Pearson correlation was run on graduate student identity salience, social support from faculty, social support from peers, and intent to graduate (see table 1). Graduate student identity salience was significantly related to social support from faculty ($r = .15, df = 172, p = .043$) but not social support from peers ($r = .14, df = 173, p = .065$). Intent to graduate was not related to social support from faculty members ($r = .13, df = 172, p = .102$) or social support from peers ($r = .06, df = 173, p = .449$). To further explore this research question, a post hoc analysis examined how social support from faculty predicted graduate student identity salience. A linear regression revealed that social support from faculty significantly predicted 2.4% of the variance in graduate student identity salience [$F(1, 172) = 4.165, p = .043, R^2 = .024, R^2_{adj} = .018$]. Overall, research question two revealed that social support from faculty slightly predicted graduate student identity salience as being a graduate student.

Research question three posited that graduate student identity salience would be related to graduate student WDD. A Pearson correlation revealed a significant positive correlation between graduate student identity salience and WDD ($r = .28, N = 176, p < .000$). To further test the research question, a post hoc linear regression was run with graduate student identity salience predicting graduate student WDD. Results revealed that graduate student identity salience significantly predicted 7.8% of the variance in graduate student WDD [$F(1, 174) = 14.771, p < .001, R^2 = .078, R^2_{adj} = .073$]. Therefore, research question three demonstrated that graduate student identity salience predicted their willingness to disclose distress.

The fourth research question explored the relationships between WDD and social support. Pearson correlations were used to look at these relationships (see table 1). Results revealed that WDD was positively correlated with social support from peers ($r = .16, df = 172, p = .031$). A post hoc analysis further examined how social support from peers predicted graduate student WDD. A linear regression revealed that graduate student perceived social support from peers predicted 3.1% of the variance in graduate student WDD [$F(1, 172) = 4.725, p = .031, R^2 = .027, R^2_{adj} = .021$].

Last, research question five explored the relationships between graduate student WDD and graduate student depression, anxiety, and stress. Pearson correlations revealed that WDD was negatively related to depression ($r = -.20, df = 175, p = .009$), but not stress ($r = -.13, df = 175, p = .087$) or anxiety ($r = -.04, df = 175, p = .634$). A post hoc linear regression was conducted to see if WDD predicted graduate student depression. Results revealed that WDD predicted 3.8% of the variance in graduate student levels of depression [$F(1, 175) = 6.981, p = .009, R^2 = .038, R^2_{adj} = .033$].

Discussion

The goal of this study was to understand how graduate student identity salience, perceived social support, mental health, intent to graduate, and WDD were related. The results indicated relationships between graduate student identity salience, depression, anxiety, stress, social support, intent to graduate, and WDD. These findings can be explained through an intergroup theory lens and social support research.

The first hypothesis examined the relationship between graduate student identity salience and graduate student depression, anxiety, and stress. The results revealed partial support for the hypothesis, with graduate student identity salience predicting 3.5% of the variance in graduate student levels of depression. Results from the first hypothesis supported previous research about how intergroup connections are related to mental health (Crabtree & Haslam, 2010). Previous research, however, specifically considered how intergroup affiliations influence positive aspects of mental health, such as self-esteem. The current study extended these findings by demonstrating that positive intergroup categorizations can also reduce negative mental health issues. More specifically, if a graduate student more positively identified as a graduate student, their levels of depression were reduced. Thus, hypothesis one supported initial claims from SIT that group membership can influence mental health (Tajfel & Turner, 1986), while extending research to consider how SIT can explain reductions in negative mental health issues.

Hypothesis two and three predicted that social support from faculty members and peers would reduce levels of depression, anxiety, and stress. Support was found for social support from faculty members reducing graduate student depression, but not stress or anxiety. This supports previous research that found social support from faculty members decreased mental health challenges (Mallinckrodt & Leong, 1992). One explanation for social support from faculty members not reducing anxiety or stress could be that even though faculty members provide social support, they still push students to succeed. Therefore, graduate student stress and anxiety levels are not necessarily reduced by the provided social support. Social support from peers, however, was not found to reduce depression, anxiety, or stress. When people are experiencing distress, social support may actually lead them to feel more negative about themselves because they are embarrassed for needing social support (Lepore, Glaser, & Roberts, 2008). Thus, one explanation for the findings in our study is that graduate students do not want to seek out social support from peers because they perceive it as a threat to their self-esteem.

Further, research questions one and two explored the relationships between graduate student identity salience, social support, intent to graduate, stress, depression, and anxiety. Results revealed that depression, social support from peers, and graduate student identity salience were related to graduate student intent to graduate. In addition, graduate student identity salience and social support from faculty were related. These results can be explained through both SIT theory and the social support construct. For instance, previous research found that social support helped students feel as if they belonged to a group, which reduced mental health disparities among these students (Lawson & Fuehrer, 1989; Yeh & Inose, 2003). Additionally, since social support fosters a sense of belonging (Cobb, 1976), it can help to increase positive connotations of group memberships. Thus, if graduate students receive social support from faculty members and peers it can improve their overall affect toward their group membership, which, according to SIT, helps to increase their self-esteem (Tajfel & Turner, 1986). Therefore, if a graduate student receives greater levels of social support, it may increase their overall identification with their role as graduate students. This in turn, can lower their levels of graduate student depression, stress, and anxiety because they feel more connected and have a more positive self-concept, seeing graduation as more obtainable.

Hypothesis four and research question three explored the relationships between distress disclosure, social support, and graduate student identity salience. The results revealed that WDD was positively related to social support from peers but not social support from faculty members. Further, support was found for graduate student identity salience predicting graduate student WDD. One explanation for these findings is through Petronio's (2002) work on privacy management. She explains that people have certain boundaries and rules for disclosing information with others, which can be based on group membership. In other words, people may be more willing to disclose information to people they perceive as their in-group members than individuals they see as out-group members. Extending intergroup theory and SIT, if graduate students perceive in-group members more positively and more highly identify as a graduate student, they may then be more willing to disclose distress to other in-group members. This was evident in the results because graduate student identity salience worked to predict graduate student WDD. Further, the nature of the student-teacher relationship might elicit more boundaries than the student-student relationship. Thus, in-group membership and boundaries are important factors in WDD about mental health issues. Another explanation for the lack of the relationship between WDD and social support from faculty could be the stigmatization of mental health issues. For instance, if graduate students are depressed they might not be willing to communicate with faculty members because of the stigmatization surrounding the disclosure (Eisenberg et al., 2009). More specifically, they could fear that their faculty would have negative reactions to their mental health issues, which could result in the faculty members treating them based on their stigmatized identity. Thus, graduate students may not be willing to disclose distress to faculty, regardless of how supportive the faculty members are. Since disclosing information about mental health is often stigmatized, these results support the findings in previous research that people do not disclose about mental health disparities (Onken & Slaton, 2000).

Additionally, the correlations from research question four showed that if students were more willing to disclose distress, they experienced reduced levels of depression. While graduate students may

fear the stigmatization from disclosing distress, these results demonstrate how important it is for graduate students to talk about their mental health issues (Wei et al., 2005). If students are able to share more of their distress, it could improve their mental health overall. Therefore, more research needs to be done to understand how graduate students can be encouraged to share their mental health issues.

The results from the current study extend research on both graduate student mental health and SIT. Theoretically, the study works to connect social support and identity salience, specifically finding that social support from faculty helped to increase graduate student identification with their role as a student. Further, the study also demonstrated how graduate student identity salience impacted their mental health, specifically finding that graduate student identity salience was negatively related to graduate student depression. While there is a lot of research left to be done on graduate student mental health, the findings from the current research illustrate that if graduate students feel they belong in a program, it helps to reduce their struggles with depression.

Implications for Graduate Programs

The findings offer several implications for graduate programs in general. Specifically, the study demonstrates the importance of social support for graduate students. In order to improve graduate student experiences, departments should focus on increasing social support for graduate students. Some ways programs could increase social support from faculty members and peers are through mentorship/advisee relationships (The Graduate Assembly, 2014). Instead of just having meetings about academics, faculty advisers could reach out to graduate students and have meetings to just see how the graduate student's life is progressing. Additionally, faculty members could offer social times with students, such as having lunch or coffee with different graduate students. Not only would this work to increase perceptions of social support but offering meetings and social appointments to graduate students could also increase a graduate student's sense of belonging in the program. Central to SIT, if a student has a stronger sense of belonging, they might identify more strongly as a graduate student. Given that having a stronger identity salience can reduce depression, helping students to feel as if they belong could help to decrease their struggles with mental health issues.

Further, the study also demonstrates the importance of disclosing distress. More specifically, the results showed how WDD could reduce depression levels. Therefore, programs should encourage graduate students to disclose their distress. While disclosing distress is important, faculty members may not be prepared to handle graduate student mental health issues themselves. Thus, one suggestion is for departments to encourage graduate students to seek counseling, allowing them to disclose mental health issues in a healthy and safe setting. Overall, graduate students need to both feel comfortable disclosing their mental health issues and have necessary outlets to do so.

Future Directions and Limitations

As highlighted in the implications section, this study demonstrates that social support is important for success in graduate school, warranting future research to continue to explore social support in graduate school. Further, the conclusions from this analysis help to extend the understanding of SIT and intergroup theory. For SIT, this study explains the relationship between identity salience and WDD, depression, anxiety, and stress. This has implications for both in-group members and out-group members. If a graduate student does not perceive themselves as an in-group member, they may experience higher levels of depression and be less willing to communicate about their problems. More research needs to be conducted to see what factors influence graduate student identity salience in their programs.

Although this study adds to current research, it does have its limitations. First, the intent to graduate scale had a low reliability; this may have influenced the results from the intent to graduate variable. Another limitation to this study is that it only measured social support from peers and faculty members, which does not account for how friends and family members may also influence graduate student experiences. Future studies should explore how families and friends impact graduate student mental health. One last limitation from the study was that the sensitive nature of the questionnaires caused

some participants to skip questions on the survey, making the reported numbers for statistical analysis differ.

Conclusion

This study extends the overall understanding of graduate students and social support to include the influence of intergroup theory. It also adds to current research about graduate student depression, anxiety, and stress. Future research should continue to explore the influence of social support on both graduate students and intergroup relations. Lastly, graduate student programs would benefit from increasing social support between faculty and graduate students.

References

- Ash, A. N., & Schreiner, L. A. (2016). Pathways to success for students of color in Christian colleges: The role of institutional integrity and sense of community. *Christian Higher Education, 15*, 38-61. doi:10.1080/15363759.2015.1106356
- Baldwin Jr, D. C., Daugherty, S. R., Rowley, B. D., & Schwarz, M. D. (1996). Cheating in medical school: A survey of second-year students at 31 schools. *Academic Medicine, 71*, 267-273. doi:10.1097/00001888-199603000-00020
- Burke, P. J., & Reitzes, D. C. (1981). The link between identity and role performance. *Social Psychology Quarterly, 44*, 83-92. doi:10.2307/3033704
- Cameron, J. (2004). A three factor model of social identity. *Self and Identity, 3*, 239-262. doi:10.1080/13576500444000047
- Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic Medicine, 38*, 300-314. doi:10.1097/00006842-197609000-00003
- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98*, 310-357. doi:10.1037/0033-2909.98.2.310
- Crabtree, J. W., Haslam, S. A., Postmes, T., & Haslam, C. (2010). Mental health support groups, stigma, and self-esteem: Positive and negative implications of group identification. *Journal of Social Issues, 66*, 553-569. doi:10.1111/j.1540-4560.2010.01662.x
- Eisenberg, D., Downs, M. F., Golberstein, E., & Zivin, K. (2009). Stigma and help seeking for mental health among college students. *Medical Care Research and Review, 66*, 522-541. doi:10.1177/1077558709335173
- Evans, T. M., Bira, L., Gastelum, J. B., Weiss, L. T., & Vanderford, N. L. (2018). Evidence for a mental health crisis in graduate education. *Nature Biotechnology, 36*, 282-284. doi:10.1038/nbt.4089
- Hecht, M., Warren, J. R., Jung, E., & Krieger, J. L. (2005). The communication theory of identity: Development, theoretical perspectives, and future directions. In W. B. Gudykunst (Ed.), *Theorizing about intercultural communication* (pp. 257-278). Thousand Oaks, CA: Sage.
- Kahn, J. H., & Hessling, R. M. (2001). Measuring the tendency to conceal versus disclose psychological distress. *Journal of Social and Clinical Psychology, 20*, 41-65. doi:10.1521/jscp.20.1.41.22254
- Lawson, T. J., & Fuehrer, A. (1989). The role of social support in moderating the stress that first-year graduate students experience. *Education, 110*, 186-193. Retrieved from <https://web.b.ebscohost.com/>
- Lepore, S. J., Glaser, D. B., & Roberts, K. J. (2008). On the positive relation between received social support and negative affect: A test of the triage and self-esteem threat models in women with breast cancer. *Journal of the Psychological, Social and Behavioral Dimensions of Cancer, 17*, 1210-1215. doi:10.1002/pon.1347
- Lipson, S. K., Zhou, S., Wagner III, B., Beck, K., & Eisenberg, D. (2016). Major differences: Variations in undergraduate and graduate student mental health and treatment utilization across academic disciplines. *Journal of College Student Psychotherapy, 30*, 23-41. doi:10.1080/87568225.2016.1105657
- Lovibond, S. H. (1983, May). *The nature and measurement of anxiety, stress and depression*. Paper presented at the 18th Annual Conference of the Australian Psychological Society: University of Western Australia, Crawley, WA, Australia.
- Lovitts, B. E., & Nelson, C. (2000). The hidden crisis in graduate education: Attrition from Ph.D. programs. *Academe, 86*, 44-50. doi:10.2307/40251951
- Lustig, S., Madon, T., Hyun, J. K., & Quinn, B. C. (2006). Graduate student mental health: Needs assessment and utilization of counseling services. *Journal of College Student Development, 47*, 247-266. doi:10.1353/csd.2006.0030
- Mallinckrodt, B., & Leong, F. T. (1992). International graduate students, stress, and social support. *Journal of College Student Development, 33*, 71-78.
- Munir, S. S., & Jackson, D. W. (1997). Social support, need for support, and anxiety among women graduate students. *Psychological Reports, 80*, 383-386. doi:10.2466/pr0.1997.80.2.383
- Newbury-Birch, D., Walshaw, D., & Kamali, F. (2001). Drink and drugs: From medical students to doctors. *Drug and Alcohol Dependence, 64*, 265-270. doi:10.1016/S0376-8716(01)00128-4
- Obst, P. L., & White, K. M. (2005). Three-dimensional strength of identification across group memberships: A confirmatory factor analysis. *Self and Identity, 4*, 69-80. doi:10.1080/13576500444000182
- Onken, S. J., & Slaten, E. (2000). Disability identity formation and affirmation: The experiences of persons with severe mental illness. *Sociological Practice, 2*, 99-111. Retrieved from <https://www.researchgate.net/>

- Onwuegbuzie, A. J. (1998). Role of hope in predicting anxiety about statistics. *Psychological Reports, 82*, 1315-1320. doi:10.2466/pr0.1998.82.3c.1315
- Petronio, S. (2012). *Boundaries of privacy: Dialectics of disclosure*. New York, NY: State University of New York Press.
- Segal, D. L., Coolidge, F. L., Mincic, M. S., & O'riley, A. (2005). Beliefs about mental illness and willingness to seek help: A cross-sectional study. *Aging & Mental Health, 9*, 363-367. doi:10.1080/13607860500131047
- Stryker, S. (1968). Identity salience and role performance: The relevance of symbolic interaction theory for family research. *Journal of Marriage and Family, 30*, 558-564. doi:10.2307/349494
- Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel & W. G. Austin (Eds.), *Psychology of Intergroup Relations* (pp. 7-24). Chicago, IL: Nelson Hall.
- The Graduate Assembly. (2014). *Graduate student happiness and well-being report: 2014*. Berkeley, CA: The Graduate Assembly.
- Thrasher, A. B., Walker, S. E., Hankemeier, D. A., & Pitney, W. A. (2015). Supervising athletic trainers' perceptions of professional socialization of graduate assistant athletic trainers in the collegiate setting. *Journal of Athletic Training, 50*, 321-333. doi:10.4085/1062-605049.3.67
- Vogel, D. L., & Wei, M. (2005). Adult attachment and help-seeking intent: The mediating roles of psychological distress and perceived social support. *Journal of Counseling Psychology, 52*, 347-357. doi:10.1037/0022-0167.52.3.347
- Wei, M., Russell, D. W., & Zakalik, R. A. (2005). Adult attachment, social self-efficacy, self-disclosure, loneliness, and subsequent depression for freshman college students: A longitudinal study. *Journal of Counseling Psychology, 52*, 602-614. doi:10.1037/0022-0167.52.4.602
- Wright, K. B., Rosenberg, J., Egbert, N., Ploeger, N. A., Bernard, D. R., & King, S. (2013). Communication competence, social support, and depression among college students: A model of Facebook and face-to-face support network influence. *Journal of Health Communication, 18*, 41-57. doi:10.1080/10810730.2012.688250
- Wrigley, S., Jackson, H., Judd, F., & Komiti, A. (2005). Role of stigma and attitudes toward help-seeking from a general practitioner for mental health problems in a rural town. *Australian and New Zealand Journal of Psychiatry, 39*, 514-521. doi:10.1080/j.1440-1614.2005.01612.x
- Yeh, C. J., & Inose, M. (2003). International students' reported English fluency, social support satisfaction, and social connectedness as predictors of acculturative stress. *Counselling Psychology Quarterly, 16*, 15-28. doi:10.1080/0951507031000114058
- Zimet, G.D., Dahlem, N.W., Zimet, S.G. & Farley, G.K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment, 52*, 30-41. doi:10.1207/s15327752jpa5201_2