

# How Peer Mentoring Can Help Universities Promote Student Success in a Post-COVID-19 Pandemic World

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## Abstract

The COVID-19 pandemic and fallout from universities' pandemic response efforts has made the adjustment to college more complex for new students. This is particularly true for students who lack familiarity with how college works. In addition to student adjustment issues, new pandemic-related issues include a greater risk for information overload, problematic access to technology and the Internet, complex decision-making, greater difficulty in recognizing relevant resources and effective strategies for addressing specific issues, and difficulties in responding to issues that take different forms in remote or hybrid learning contexts. Peer mentoring can help. Informed by interviews with university faculty, program coordinators, and support staff, this article identifies the peer mentoring qualities that make it a useful tool for helping universities respond to issues associated with the pandemic. Mentors provide personal connections to the university, have proximate experience for a post-pandemic university context, are seen as credible sources for messaging, and provide accurate standards of social comparison with regards to strategies for success. The article also suggests tips for universities to set up peer mentoring programs to assist students in post-pandemic contexts.

**Keywords:** peer mentoring, COVID-19, student success

## Introduction

The 2020-21 COVID-19 pandemic forced universities to address multiple issues they never anticipated. Even when quick responding schools came up with what appeared to be viable plans for dealing with an initial set of problems, developments in federal and state-level pandemic responses made initial plans obsolete overnight (Murakami, 2020; Quilantan, 2020). New issues kept arising that required universities to come up with creative ways to support students.

Completing a college degree is a high stakes/high reward activity. There is a big payoff for graduates with four-year degrees compared to non-graduates in terms of employment and career opportunities, average earnings, and access to better health care (Caumont, 2014). Earning a bachelor's degree involves successfully addressing multiple adjustment issues and is challenging under the best of conditions. The freshman year and the transition from first to second years are critical times with regards to student persistence (Kamer & Ishitani, 2019). Peer mentoring has been used in the past to promote college student success (Lane, 2020).

### Peer mentoring

In higher education, peer mentoring describes a relationship where a more experienced student helps a less experienced student improve academic performance and social connection to the university by "...connecting protégés to key resources, providing information about opportunities, helping protégés navigate their university, and acting as liaisons to faculty and other influential people" (Lunsford et al, 2017). Peer mentoring has been shown to be effective in promoting college success for different sub-groups of students including returning veterans (Alexander, 2014), students with disabilities (Hillier, et al 2019), STEM majors (Zaniewski & Reinholz, 2016), and students of color: Latinx (Moschetti, Plunkett, Efrat & Yomtov, 2017), African American (Brittain, Sy, & Stokes, 2009), Native American (Mosholder & Goslin, 2013), and Asian American students (Palmer & Maramba, 2015).

### Traditional college adjustment issues

Traditionally, students must address several important adjustment issues, besides meeting course-related academic demands, to succeed in college.

First, students transitioning into higher education need to establish they are legitimate college students and belong at the university. Both social belonging and academic performance are strong predictors of retention (Davis, Hanzsek-Brill, Petzold & Robinson, 2019). Participating in peer mentoring programs has been associated with improved grade point average (DeMarinis, Beaulieu, Culi, & Abd-El-Aziz, 2017), completing a higher average number of credits in the first year (Collier et al, 2008) and improved sense of belonging (Yomtov, Plunkett, Efrat, & Marin, 2017).

Second, new students are asked to develop a social support network without having spent much time in the college context. Universities try to anticipate and address this issue by providing pre-term orientation, on-campus and resident hall-based information kiosks, and new student outreach connected to social activities during the first week of classes. Students who participate in peer mentoring programs report that they strongly value the support they receive from their mentors (Ruthkosky, & Castano, 2007) and viewed them as allies with whom it felt safe to disclose personal issues and information (Beebe, Beebe, Redmond & Geerinck, 2004).

Third, new students are asked to take in, understand, and act upon a significant amount of new information. This is an on-going process. Information is constantly being introduced with expectations that earlier material provides a foundation for all that follows (Beras, 2018). By sharing their own university experiences, peer mentors help their mentees make higher quality decisions (Collier, 2015, p. 76-77) that lead to college success.

Fourth, new students are asked to understand the college student role and the university's expectations of them. They are expected to know not only that there are important adjustment issues that need to be addressed, but also which issues need to be prioritized, and at what time. It is assumed, though not always articulated, that if students do not know how to address a specific issue, they will know what information they are missing and where to go to get that information. Mentors help less experienced students better understand the college student role (Palmer, Hunt, Neal & Wuetherick, 2015) and how to use that knowledge to achieve valued goals such as completing their degrees (Collier, 2015, p. 37-38). Students who participated in peer mentoring programs demonstrated increased confidence in their abilities to successfully enact the college student role (Smith-Jentsch, Scielzo, Yarbrough, & Rosopa, 2008).

Fifth, new students are expected to be able to locate campus resources for addressing specific issues. They are expected to do so even though they have little or no experience with those issues, limited knowledge of neither available options, nor ideas about which resources might be most helpful for addressing those issues. Beatrice & Shively (2007) found that students who participated in peer mentoring programs increased their knowledge and use of available campus resources.

Finally, non-traditional students (e.g. first-generation, low-income, older/returning students) face additional, unexpected challenges due to differences in available resources and/or familial lack of familiarity with higher education (Collier & Morgan, 2008). Peer mentors can provide these students with insights into how to make the most of opportunities at college, avoid potential pitfalls, utilize available resources, and respond appropriately to professors' expectations. This is information that students whose parents are college graduates typically get at home (Collier 2015).

The changes that universities have made in response to the threat of the COVID-19 pandemic have increased uncertainty and introduced additional college adjustment issues. Therefore, universities must

strategize about how to encourage students to enroll, persist, and ultimately complete their degrees at those schools. Peer mentoring can be a particularly effective approach for universities trying to support students in the post-pandemic contexts.

Additional pandemic-associated issues that impact college student success and how peer mentoring could help students address these issues

The COVID-19 pandemic and fallout from universities' pandemic response efforts, e.g. the shift to all online courses in Spring 2020, have made college adjustment more complicated for students. In this section I will examine five additional pandemic associated issues and explore how properties of peer mentoring: (e.g. the ability of mentors to provide personal connection (Beras, 2018), be viewed as credible information sources (Collier, 2017), share relevant expertise (Collier & Morgan, 2008), and serve as a models for social comparison (Smith-Jentsch, et al, 2008) make it a potentially valuable approach for universities seeking to support students in the post-COVID-19 context.

### **1. Post-pandemic students need to establish social support networks within the new context where traditional means of interacting with other students, faculty and staff are no longer present.**

*Post-pandemic students need to develop personal connections to the university*

Traditionally, universities have tried to promote connections among new students by providing a range of welcome-to-campus activities. Unfortunately, traditional student outreach activities have been rolled back post pandemic due to concerns about large group gatherings and maintaining appropriate social distancing (Camera, 2021).

*How peer mentoring can help*

Peer mentoring can help post-pandemic students develop social support networks. As one mentor program coordinator noted, students want to be heard and recognized as individuals. One characteristic of mentor-mentee relationships is that mentors provide mentees with personal connections to the university. Peers share a perspective with mentees due to their proximate experiences, which makes them relatable and increases the likelihood of mentor-mentees bonding. In the current context, one-to-one, virtual mentor-mentee relationships may provide needed welcome-to-campus socialization while maintaining student safety.

Mentors can establish face-to-face connections by contacting mentees by Zoom or other video chat software before the semester begins. A program coordinator noted that one key is making communication routine and repetitive. Regular mentor check-ins reassure mentees that someone on campus knows them personally and provides many of the positive qualities of face-to-face interaction. College students who participate in peer mentoring programs report stronger intentions to stay in college

and complete their degrees (Sanchez, Bauer, & Paronto, 2006). As universities return to in-person course delivery over time, these virtual relationships can serve as foundations for on-going, in-person ones.

### *Post-pandemic students need to be able to identify credible message sources*

As noted earlier, content is only one element that impacts whether a student pays attention to a message. The message source's credibility is equally important (Pornpitakan, 2004). One benefit of traditional in-person education is that students have opportunities to informally interact with other students and learn their perspectives on which message sources are credible. With remote course delivery, students lose these informal opportunities to share information

### *How peer mentoring can help*

The social-psychological concept of credibility is a helpful frame for understanding why peer mentoring is a valuable tool for helping universities respond to pandemic-associated issues. The person sending a message is called the message source. A message source's credibility is a critical element in the persuasion process. There are two components to credibility: expertise and trustworthiness. Expertise refers to the source's degree of knowledge of issue-related factual information, whereas trustworthiness refers to the degree to which the source is perceived as likely to accurately share this related factual information (Hovland & Weiss, 1951).

Peer mentors are seen as experts on "how to be successful university students in the post-pandemic context" because of their recent experiences successfully addressing the adjustment issues their mentees are currently facing. Peer mentors are also likely to be similar to new students in age and background. Similarity has been associated with increased likelihood of being perceived as trustworthy (Traberg, & van der Linden, 2022). Thus, it follows that mentors are likely to be seen as credible message sources. Mentors' greater perceived credibility increases the likelihood of mentees following their advice.

**2. Changes to more technologically based course delivery modes (e.g. entirely online in the current context) leads to a greater reliance on online communication. Note: this is also a valid issue when universities opt to respond to the post-pandemic concerns by increasing the percentage of hybrid courses being offered.**

### *Post-pandemic students need to deal with potential information overload*

Greater reliance on online communication means that students receive constant streams of information from their universities without another person being available to clarify resulting questions. Students can get overwhelmed when asked to make sense of large amounts of messages that all seem equally

important. Information overload can lead to avoidance, as mentees either do not open emails or do not respond after opening and reading their emails (Misra & Stokols, 2012).

#### *How peer mentoring can help*

The first step is to get mentees to recognize and acknowledge that they have received messages from their mentors. The personal connections that mentors build with their mentees increases the likelihood that mentees will pay attention to the mentor's e-mail in their overloaded inboxes (Macrae, Visokomogilski, Golubickis, & Sahraie, 2018). The second step involves encouraging the mentee to follow the mentor's advice. Once the mentor has shared her expertise, in the form of already-tested college success strategies, and the mentee tries out a strategy and it works, the mentee is more likely to follow subsequent courses of action advocated by the mentor (Collier, 2015, p. 77).

#### *Post-pandemic students need to be able to differentiate among incoming messages*

New students are inundated with multiple messages from different university sources urging them to address specific issues immediately. Without a basis for differentiating which messages are most important to pay attention to, students can be frozen into inaction.

#### *How peer mentoring can help*

Mentors can simultaneously help mentees differentiate among incoming messages and reduce potential information overload by assisting them in creating simple guidelines for message recognition, categorization, and prioritization (Wainer, Dabbish, & Kraut, 2011). Recognition has to do with determining which messages are most important (e.g. "always open emails from the office of financial aid, any of your professors, and your mentor"). Categorization refers to separating messages into important and junk (e.g. "create separate folders to save messages from different classes.") After separating messages into categories, prioritization refers to which messages in the important category need to be read and acted upon before others (Hanrahan, Pérez-Quinones & Martin, 2016). There is a tendency for students to underestimate the sheer volume of messages they will receive as the result of a shift to all online course delivery. By revisiting these issues from time to time, mentors can make sure mentees are not getting overwhelmed.

### **3. Post-pandemic students must deal with unanticipated changes in important adjustment issues**

As noted earlier, to succeed at college, even before the pandemic, new students are called upon to appropriately address a range of adjustment issues even though they initially may not be sure how to do so. An additional, post-pandemic complication is that even when students are aware of how earlier students dealt with the same issues, particularly prioritization, that information is likely no longer applicable. Current students may not realize that even recent graduates' ideas about the relative

importance or appropriate time to prioritize specific issues may have changed due to the demands of the post-pandemic university context. For example, when classes were all delivered in-person and on campus, issues like setting up an IT account – e.g. internet access, email account, logins for accessing online tutoring resources, or learning how to remotely access library resources -- may have seemed to just be part of general housekeeping in preparation for the beginning the semester and no more important than quite a few other issues. However, the same issues will take on much more importance when all classes are only delivered remotely and access to campus resources is only available online.

Typically, students learn through the process of social comparison to recognize important adjustment issues, strategies for addressing those issues, and when to prioritize specific issues at different issues (Festinger, 1954). Social comparison involves sharing and comparing their understandings of what it takes to succeed at college with those of other, usually more experienced, students in face-to-face interactions. New students lose these learning opportunities when campuses shift to remote delivery of courses or decrease opportunities for students to informally interact with each other.

Students need social comparison information to make informed decisions. Decision-making follows a particular pattern: problem recognition, awareness of alternative strategies, assessment of the alternatives' relative likelihood of success, selection of an alternative, and putting that alternative into action (Simon, 1955).

There are important differences between new and more experienced students' decision-making processes with regards to the same issue. Experienced students are more likely to consider alternative strategies that have higher likelihoods of success.

*Post-pandemic students need to be able to identify effective success strategies to make informed decisions.*

In the post-pandemic context, students do not have access to input from their peers about different alternative problem-solving strategies' relative likelihood of success or opportunities to observe the consequences of other students implementing different alternatives. New students may be ignorant of potentially effective strategies for addressing specific adjustment issues (Collier, 2015 p.74). They do not know that there are important things they don't know. New students are forced to make decisions about how to proceed addressing specific college adjustment issues using a less-efficient trial and error approach based solely on their own experiences.

*Post-pandemic students need to be able to accurately calculate alternative strategies' costs and benefits*

A related issue is whether new students can accurately calculate the potential costs and benefits of different approaches for addressing specific adjustment issues (Hastie, 2001, p.658). Students who are

unfamiliar with the consequences of choosing one alternative over another often make choices that maximize short-term benefits while ignoring alternatives that ultimately produce greater benefits in the long run (Iloh, & Tierney, 2014).

### *How peer mentoring can help*

Peer mentors provide mentees with templates for how to be successful students by sharing their experiences in the post-pandemic university context. New students struggle with identifying effective success strategies. Mentees' universe of possible effective strategies may be different than those of more experienced students because they are less familiar with higher education in general, and the post-pandemic university context. One advisor mentioned that even when the issues new students are dealing with are the same as in the past, the explicit steps they will need to take to address those issues is different because the context has changed so radically. New students may be unaware of potentially effective strategies that mentors are already familiar with due to their own experiences.

Another decision-making-related issue is that new students have difficulty accurately calculating specific alternatives' costs/benefits. They struggle with subjective assessments of whether trade-offs associated with commitment to a specific strategy are worth it. Mentees may be unaware of potential benefits and/or costs that might affect their choices of strategies. Peer mentors' advanced college status and post-pandemic context experiences provide greater understandings of which strategies have the greatest likelihood of success.

When mentors share their understandings of strategies that work, their mentees are more likely to make higher quality decisions. For the mentee, accepting the mentor's advice amounts to replacing a high-effort, low-likelihood of success approach (i.e. figuring out how to proceed using trial and error based on personal experience) with a simple judgment task (e.g. "Should I accept this strategy as the best one to use because the mentor recommends it?").

It is the peer mentor's credibility that encourages the mentee to follow the advice that is offered. The mentee spends less time setting up the problem and working out a viable solution and more time working on the actual task. Spending more time on task leads to better academic outcomes (Collier, 2015, p.76).

#### **4. Post-pandemic students need to be able to distinguish relevant resources and how to use them appropriately in the new context**

Once a problem has been identified and alternatives initially assessed, but before a choice is made, it is important to consider the availability of relevant resources. New students' evaluation of a strategy's relative likelihood of success depends upon how easy it is to imagine that alternative addressing the issue. One factor that impacts this evaluation is the availability of effective problem-solving resources.



Because of their unfamiliarity with the post-pandemic context, new students may not be aware of available resources or how to use them appropriately.

### *How peer mentoring can help*

Peer mentors are likely to be aware of the range of available campus resources due to their advanced college status and post-pandemic context experiences. However, mentors need to do more than just provide mentees with relevant information about campus resources. They also need to make sure mentees understand which resources are appropriate for addressing specific student issues (Collier, 2015, p.71). A mentor training coordinator noted that linking campus resources to specific student issues was a point of emphasis in their on-going trainings. In training, mentors were presented with a scenario and then asked: “which resources would you recommend to help a student deal with this issue in the post-pandemic university context?” It is helpful when mentors can provide mentees with explicit, step-by-step directions on how to use key resources to address specific adjustment issues.

## **5. Changes in course delivery modes disproportionately impact low-income students and those who are not familiar with how the university works.**

As noted earlier, universities’ responses to the threat of the COVID-19 pandemic have increased uncertainty and created additional college adjustment issues for all students. For example, one concern that all students share has to do with uncertainty regarding how the university will deliver courses (Morris, Myers, Hawkins, Moulton & Moulton, 2021). It is harder for students to plan when the final decisions about whether in-person instruction will be permitted is ultimately in the hands of state officials.

When universities shifted to remote course delivery, school became more difficult for students who pre-pandemic relied on campus resources for access to Wi-Fi, computers, and printers. Having a quiet area with access to technology is problematic for many students working from home. Bandwidth issues impact download and uploads of assignments and are exacerbated in many households by K-12 students’ increased need for internet access due to their schools’ shift to remote course delivery. Other post-pandemic course delivery issues disproportionately impact low-income and first-generation students.

### *Post-pandemic low-income, first-generation students need help in addressing technological and Internet access issues when universities shift to more technologically based course delivery modes*

Within higher education, the digital divide refers to an identified condition where low income, first-generation, and minority students report experiencing distinct disadvantages in terms of access to technology and the Internet (Buzzetto-Hollywood, Wang, Elobeid, & Elobeid, 2018). Two separate 2020 studies of college students’ post-pandemic technological barriers (Jaggers et al, 2021; Means &

Neisler, 2020) found that approximately 16% of students reported technology barriers (e.g. inadequate computer hardware or Internet connection) that inhibited their participation in online learning. Both studies found higher rates of connectivity issues for low-income students compared to high-income students, and for Black and Latinx compared to White students. An examination of differences in students' type of home Internet connection found these relative disadvantages persisted with White and more affluent individuals more likely to have home broadband access (Zickuhr, 2013).

There are also hardware issues that contribute to the digital divide. Low-income and minority students are more likely to use their cell phones for Internet access, and while smartphones are sufficient for basic online tasks, they are not adequate for more complex tasks like completing class assignments (Fernandez, Reisdorf, & Dutton, 2019). In addition, differences in screen size can lead to shorter attention spans due to visual strain (Maniar, Bennett, Hand, & Allan, 2008). As one advisor noted, success in the post-pandemic university context depends on tech capacity, not just “does a student have Internet access?”

### *How peer mentoring can help*

The differential impact of the digital divide becomes even more important to address post-pandemic as universities shift to more technologically based course delivery modes. Already established mentoring programs need to place greater emphasis in their trainings on the ubiquity of digital divide-related issues among current college students along with information for mentors on how to connect mentees to relevant post-pandemic resources. As one coordinator pointed out, the nature of your training and your program must change in relation to the degree to which your school's course delivery format changes.

New students may not be aware of which resources the university provides that would make it easier for them to effectively complete academic tasks. For example, when Portland State went to entirely remote learning in spring 2020, librarians worked to keep some spaces at the library open for students with limited connectivity at home to come to school to access high-speed Internet. The issue then became how to get that information to the students who need it the most. Even when the university explicitly shares this information in a message to all students, it may get lost in the tidal wave of messages new students receive daily. Because peer mentors are perceived as credible message sources, their messages may get through to new students even in the sea of other e-mails. Because they have already established personal connections, it is safer for mentors to directly ask if mentees are having issues in these areas. Mentors can also help mentees realize they are not alone in having to address these issues by sharing stories from their pasts about instances when they ended up doing unnecessary additional work or achieved less-than-optimal results on assignments because they did realize that appropriate problem-solving resources existed.

The final section of this article offers tips for universities concerning how to set up programs and prepare peer mentors for supporting students in post-pandemic contexts.

### **Tips for Universities**

Preparing mentors typically takes place during pre-semester mentor training. During training, program coordinators need to identify post-pandemic adjustment issues they anticipate students will face and explicitly spell out what mentors should emphasize in their interactions with their mentees.

*1. Make sure that mentors' messages emphasize information that is consistent with and complimentary to other important university messages that are going out to students.*

This increases the likelihood of successful communication in several ways. First, for students who try to pay attention to other mail from the university, message repetition is associated with information retention and greater perceived source credibility (Ernst, Kühne, & Wirth, 2017). Not only are mentees more likely to retain the information in the repeated message, mentors' improved perceived credibility increases the likelihood of mentees following their mentors' advice. Second, if students respond to potential information overload by withdrawing from reading most of the e-mail messages from the university, mentors' messages are more likely to be read and responded to because of their already established relationships. This mediates the university's use of online communication as default mode of communication and still exposes new students to the university's important messages even if they have to be diverted through the mentors.

*2. Use explicit language in peer mentors' messages.*

Encourage mentors to clearly spell out what issue the message is about in both the e-mail subject line and the first sentence of the text (Wainer, Dabbish, & Kraut, 2011). Make sure each message explains why this issue is important, how students should proceed, and how to get any questions answered. One advisor emphasized that mentors need to be explicit, "this is exactly what I am here for and here is how I can help."

*3. Clarify that mentors are facilitators, not necessarily experts on addressing every adjustment issue.*

Clearly communicate that mentors are facilitators who can connect students with other experts who can address specific issues. This should be emphasized during mentor training, and mentors need to make sure mentees understand this at the beginning of their relationships.

#### *4. Emphasize why mentors are expert students.*

To be considered experts, mentors need to be able to demonstrate they know how to successfully problem-solve in the post-pandemic university context, e.g. how to make the most of remote office hours. Since mentors are already likely to be perceived as trustworthy because of their similarity to mentees, the combination of expertise and trustworthiness increases the likelihood of mentors being seen as credible message sources with all the benefits that brings. One coordinator suggested that programs could build up the mentor's perceived expertise by certifying that they have completed training that covered how to best address specific issues and locate important resources.

#### *5. Encourage mentors to model how to be successful university students.*

Besides acting in appropriate ways, mentors need to explain to mentees why they made the choices they did when addressing a specific adjustment issue to facilitate social comparison. It can be very helpful when mentors tell stories of own and other students' experiences addressing specific adjustment issues particularly in the post-pandemic university context.

#### *6. Promote appropriate resource use through how to videos.*

One program coordinator mentioned that in post-pandemic contexts that rely on remote delivery, it is helpful to have mentors make short screen-chats demonstrating how to appropriately use specific campus resources. These informal and personal messages in the mentor's voice can be shared with multiple students who have the same issue. This also makes the mentor appear to be more of a real person than just a talking head in a Zoom call.

#### *7. Expedite the development of mentor training programs.*

Consider building upon or adding to existing mentor training programs on your campus. One relatively quick turn-around intervention would be to have university student support staff work with existing mentoring program coordinators and mentors to develop a list of important issues that students are struggling to address in the post pandemic context. Ask the same group to provide "advice for mentors" to share with students on how to best address each issue and which campus resources would be most useful for doing so. After making a consolidated list, share that material with the coordinators of existing programs so that they can incorporate it into ongoing mentor training or even mid semester outreach to current students. Whether you are developing new programs or building upon existing ones, among the skills to emphasize in mentor training are: giving directions, knowing potential adjustment issues and which strategies mentors should recommend, as well as being able to link campus resources to addressing specific adjustment issues.

## **Conclusions**

The COVID-19 pandemic and unintended consequences of schools' pandemic responses have introduced new college adjustment issues and made universities' student support efforts more complicated. Peer mentoring can help.

## **Acknowledgement**

This article is informed by conversations with select Portland State University faculty members, mentoring program coordinators and advisers about their experiences in Winter/Spring 2020 when the university shifted from in-person to entirely online course delivery in response to the COVID-19 pandemic. I want to thank all these individuals for generously sharing their time.

## References

- Alexander, C. A. (2014). The lived experience of student veterans transitioning to higher education: A narrative analysis. *Education Innovation and Practice* 1(3), 49–60. <https://doi.org/10.15764/EPI.2014.03006>
- Beebe, S.A., Beebe SJ, Redmond M.V., and T.M. Geerinck, (2004). *Interpersonal communication: Relating to others* (3<sup>rd</sup> edition), Toronto, CA: Pearson/Allyn and Bacon.
- Beras, K. . (2018). Prime Time: The First 6 Weeks Adjusting, Belonging, and Thriving in College. *Journal of College Orientation, Transition, and Retention*, 25(2), 127-130. <https://doi.org/10.24926/jcotr.v25i2.2127>
- Brittain, A. S., Sy, S. R., & Stokes, J. E. (2009). Mentoring: Implications for African-American college students. *Western Journal of Black Studies*, 33, 87-97.
- Buzzetto-Hollywood N.A., wang H.C., Elobeid M., Elobaid M.E. (2018). Addressing Information Literacy and the Digital Divide in Higher Education, *Interdisciplinary Journal of e-Skills and Lifelong Learning*, V 14, pp. 77-93. <https://doi.org/10.28945/4029>
- Camera, Lauren. (2021, August 19). Universities Wave the White Flag in the Face of Campus Coronavirus Outbreaks, *US News and World Report*.
- Caumont, Andrea (2014, February 11). 6 key findings about going to college, *Pew Research Center, Facttank, News in the numbers*, <https://www.pewresearch.org/fact-tank/2014/02/11/6-key-findings-about-going-to-college/>
- Collier, P. (2017). Why peer mentoring is an effective approach for promoting college student success. *Metropolitan Universities*, 28(3). <https://doi.org/10.18060/21539>
- Collier, P.- (2015). *Developing effective student peer mentoring programs: A practitioner's guide to program design, delivery, evaluation, and training*. Stylus Publishing.
- Collier, P. J., Fellows, C., & Holland, B. (2008). Students first: Improving first-generation student retention and performance in higher education: Final report of program activities: 2005–2008. Retrieved from <https://www.drpeterjcollier.com/approach.html>

- Collier, P. J., & Morgan, D. L. (2008). "Is That Paper Really Due Today?": Differences in First-Generation and Traditional College Students' Understandings of Faculty Expectations. *Higher Education*, 55(4), 425–446. <https://doi.org/10.1007/s10734-007-9065-5>
- Colvin, J., & Ashman, M. (2010). Roles, Risks, and Benefits of Peer Mentoring Relationships in Higher Education. *Mentoring & Tutoring: Partnership in Learning*, 18, 121 - 134.
- Davis, G. M., Hanzsek-Brill, M. B., Petzold, M. C., & Robinson, D. H. (2019). Students' Sense of Belonging: The Development of a Predictive Retention Model. *The Journal of Scholarship of Teaching and Learning*, 19(1). <https://doi.org/10.14434/josotl.v19i1.26787>
- DeMarinis, M., Beaulieu, J., Cull, I.V., & Abd-El-Aziz, A.S. (2017). A Mixed-Methods Approach to Understanding the Impact of a First-Year Peer Mentor Program. *Journal of the First-Year Experience & Students in Transition*, 29(2), 93-107.
- Ernst, N., Kühne, R., & Wirth, W. (2017). Effects of message repetition and negativity on credibility judgments and political attitudes. *International Journal of Communication*, 11, 3265–3285.
- Fernandez, L., Reisdorf, B. C., & Dutton, W. H. (2020). Urban Internet myths and Realities: A Detroit case study. *Information, Communication & Society*, 23(13), 1925–1946. <https://doi.org/10.1080/1369118X.2019.1622764>
- Festinger, L. (1954). A Theory of Social Comparison Processes. *Human Relations*, 7(2), 117–140. <https://doi.org/10.1177/001872675400700202>
- Hanrahan, B. V., Pérez-Quiñones, M. A., & Martin, D. (2016). Attending to Email. *Interacting with Computers*, 28(3), 253–272. <https://doi.org/10.1093/iwc/iwu048>
- Hastie, R. (2001). Problems for judgment and decision making. *Annual Review of Psychology*, 52(1), 653–683. <https://doi.org/10.1146/annurev.psych.52.1.653>
- Hillier, A., Goldstein, J., Tornatore, L., Byrne, E., & Johnson, H. M. (2019). Outcomes of a peer mentoring program for university students with disabilities. *Mentoring & Tutoring: Partnership in Learning*, 27(5), 487-508. <https://doi.org/10.1080/13611267.2019.1675850>
- Hovland, C., & Weiss, W. (1951). The influence of source credibility on communication, *Public Opinion Quarterly* 15:635–50. <https://doi.org/10.1086/266350>

- Iloh, C., & Tierney, W. G. (2014). Understanding for-profit college and community college choice through rational choice. *Teachers College Record*, 116(8), 1–34.
- Jaggars, S. S., Motz, B. A., Rivera, M. D., Heckler, A., Quick, J.D., Hance, E. A., & Karwischka, C. (2021). The Digital Divide Among College Students: Lessons Learned From the COVID-19 Emergency Transition. *Midwestern Higher Education Compact*.
- Kamer, J.A., & Ishitani, T.T. (2019). First-Year, Nontraditional Student Retention at Four-Year Institutions: How Predictors of Attrition Vary Across Time. *Journal of College Student Retention: Research, Theory & Practice*, 23, 560 - 579.
- Lane, S. R. (2020). Addressing the Stressful First Year in College: Could Peer Mentoring Be a Critical Strategy? *Journal of College Student Retention: Research, Theory & Practice*, 22(3), 481–496. <https://doi.org/10.1177/1521025118773319>
- Lederer, A. M., Hoban, M. T., Lipson, S. K., Zhou, S., & Eisenberg, D. (2021). More Than Inconvenienced: The Unique Needs of U.S. College Students During the COVID-19 Pandemic. *Health Education & Behavior*, 48(1), 14–19. <https://doi.org/10.1177/1090198120969372>
- Lunsford, L., Crisp, G., Dolan, E., & Wuetherick, B. (2017). Mentoring in higher education. In D. A. Clutterbuck F. K. Kochan, & L. Lunsford *The SAGE Handbook of mentoring* (pp. 316-332). SAGE Publications Ltd, <https://www.doi.org/10.4135/9781526402011.n20>
- Macrae, C. N., Visokomogilski, A., Golubickis, M., & Sahraie, A. (2018). Self-relevance enhances the benefits of attention on perception. *Visual Cognition*, 26(7), 475–481. <https://doi.org/10.1080/13506285.2018.1498421>
- Maniar, N., Bennett, E., Hand, S., & Allan, G. (2008). The Effect of Mobile Phone Screen Size on Video Based Learning. *Journal of Software*, 3(4) 51-61. <https://doi.org/10.4304/jsw.3.4.51-61>
- Maramba, D. C., & Palmer, R. T. (2015). The Impact of Social Capital on the Access, Adjustment, and Success of Southeast Asian American College Students. *Journal of College Student Development*, 56(1), 45–60. <https://doi.org/10.1353/csd.2015.0007>
- Means, B., & Neisler, J. (2020). Suddenly Online: A National Survey of Undergraduates During the COVID-19 Pandemic. <https://doi.org/10.51388/20.500.12265/98>



- Misra, S., & Stokols, D. (2012). Psychological and Health Outcomes of Perceived Information Overload. *Environment and Behavior*, 44(6), 737–759. <https://doi.org/10.1177/0013916511404408>
- Morris, M., Myers, B., Hawkins, K., Moulton, M. & Moulton, P. (2021). Lessons Learned from Online Course Delivery during the Onset of COVID-19. In E. Langran & L. Archambault (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 227-232). Association for the Advancement of Computing <https://www.learntechlib.org/primary/p/219137/>.
- Moschetti, R. V., Plunkett, S. W., Efrat, R., & Yomtov, D. (2018). Peer Mentoring as Social Capital for Latina/o College Students at a Hispanic-Serving Institution. *Journal of Hispanic Higher Education*, 17(4), 375–392. <https://doi.org/10.1177/1538192717702949>
- Mosholder, R., & Goslin, C. (2013). Native American College Student Persistence. *Journal of College Student Retention : Research, Theory & Practice*, 15(3), 305–327. <https://doi.org/10.2190/CS.15.3.a>
- Murakami, K. (2020, September). Despite Warnings, No Clear Advice on Closing Dorms. *Inside Higher Ed*
- Pornpitakpan, C. (2004). The Persuasiveness of Source Credibility: A Critical Review of Five Decades' Evidence. *Journal of Applied Social Psychology*, 34(2), 243–281. <https://doi.org/10.1111/j.1559-1816.2004.tb02547.x>
- Quilantan, Bianca. (2020, August 17). Colleges' best-laid coronavirus plans quickly come undone. *Politico*
- Ruthkosky, P., & Castano, S. (2007). First-Year Peer Mentoring Helps Ease Student Transition to College, *E-Source for College Transitions*, 5(1), 6-9.
- Sanchez, R. J., Bauer, T. N., & Paronto, M. E. (2006). Peer-Mentoring Freshmen: Implications for Satisfaction, Commitment and Retention to Graduation. *Academy of Management Learning & Education*, 5(1), 25–37. <https://doi.org/10.5465/AMLE.2006.20388382>
- Simon, H. A. (1955). A Behavioral Model of Rational Choice. *The Quarterly Journal of Economics*, 69(1), 99–118. <https://doi.org/10.2307/1884852>
- Smith, A., Rainie, L., & Zickuhr, K. (2011). College students and technology. Retrieved from <https://pewinternet.org/Reports/2011/College-students-and-technology.aspx>

- Smith-Jentsch, K. A., Scielzo, S. A., Yarbrough, C. S., & Rosopa, P. J. (2008). A comparison of face-to-face and electronic peer-mentoring: Interactions with mentor gender. *Journal of Vocational Behavior*, 72(2), 193–206. <https://doi.org/10.1016/j.jvb.2007.11.004>
- Steele, Carmen. (2019, February 22). What is the digital divide? *Digital Divide Council*, <http://www.digitaldividencouncil.com/what-is-the-digital-divide/>
- Traberg, C. S., & van der Linden, S. (2022). Birds of a feather are persuaded together: Perceived source credibility mediates the effect of political bias on misinformation susceptibility. *Personality and Individual Differences*, 185, 111269. <https://doi.org/10.1016/j.paid.2021.111269>
- Wainer, J., Dabbish, L., & Kraut, R. (2011). Should I open this email?: inbox-level cues, curiosity and attention to email. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 3439–3448. <https://doi.org/10.1145/1978942.1979456>
- Yomtov, D., Plunkett, S. W., Efrat, R., & Marin, A. G. (2017). Can Peer Mentors Improve First-Year Experiences of University Students? *Journal of College Student Retention : Research, Theory & Practice*, 19(1), 25–44. <https://doi.org/10.1177/1521025115611398>
- Zaniewski, A. M., & Reinholz, D. (2016). Increasing STEM success: a near-peer mentoring program in the physical sciences. *International Journal of STEM Education*, 3(1), 1–12. <https://doi.org/10.1186/s40594-016-0043-2>
- Zickuhr, K. (2013). Who's not online and why. Retrieved from <http://www.pewinternet.org/Reports/2013/Non-internet-users.aspx>