Young Adults' Experience of Mobile Device Disruption of Proximate Relationships

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Abstract- *This study examined the frequency of cellphone distraction during face-to-face encounters, comparing rates in men and women. It also assessed whether people report that expression of empathy suffers as a result of cellphone use. Individual differences in annoyance associated with others' attending to their mobile devices were also evaluated. Nearly a third of the young adults surveyed (30%) reported routinely being ignored by their significant other due to mobile device use; only 9% of respondents reported having never been ignored. Roughly half stated that female friends routinely ignore them; nearly as many male friends reportedly did the same. Nearly half (44%) of the respondents reported being bothered by this. About a third of participants admitted that they themselves routinely ignore others during face-to-face encounters due to cellphone use. Personality differences appeared to mediate reactions to cellphone relationship disruption. As expected, perspective-taking was associated with less ignoring of others. Self-esteem seemed to affect perceptions of others' distraction; those higher in self-esteem perceived less interference. Both low self-esteem and depression were associated with greater belief that mobile devices interfere with empathy and greater irritation with others' cellphone use.*

Keywords: Mobile device, Cellphone, Relationship Disruption.

1. Introduction

The modern world provides constant access to family and friends through the use of mobile devices. Social networks and text messaging allow people with smart phones to stay current with the news or contact a friend at a moment's notice.While most see this technological advancement as something that has improved social interactions among friends and family members, recently it has been proposed that such 24/7 access to everyone and everything is actually in some respects detrimental to our geographically proximate interpersonal relationships.

For many, the problem may be that constant connection to social media and text messaging can sometimes foster a disconnection with the *real* people sitting right in front of us. Face-to-face interactions with friends and loved ones may become less meaningful because people are distracted by competing interactions with distant others, through text messaging or social updates. This could ultimately affect people's relationships with their closest friends, family, and (especially worrisome) their significant others, depending upon how much time people spend on their mobile devices during face-to-face interactions.

Excessive cell phone use may compromise face-to face interpersonal responsiveness and thereby adversely affect relationships. Although mobile devices facilitate communication and may foster the success of some relationships (such as long distance relationships), they also have potentially deleterious effects on proximate relationships. During face-to-face encounters, excessive use of mobile devices may interfere with mutuality, the quality of interpersonal communication, and expressions of empathy. Mobile devices compete for attention during face-to-face encounters, and recipients of mobile contacts can be distracted by alerts, whether

or not they choose to respond to incoming texts or calls. This can compromise empathic responding and be irritating to the onlooker.

An incoming call or message also creates a quandary for the recipient: should the needs of the distant communication take precedence over the immediate situation? There are likely differences in how individuals negotiate these challenges. Trait levels of empathy might mediate these responses, because sensitivity to others should elevate the experience of relationship conflict posed by such situations, as one simultaneously imagines the needs of both the present and the distant communicator.

Since men and women have been shown to differ in empathy (Hoffman, 1977), a sex difference in response to cell phone use might be expected. Women and men may use devices and respond to others' use of communication technology somewhat differently due to empathy differences. Additionally, women may have more extensive interpersonal relationships and feel a greater sense of responsibility within relationships, and consequently they may find themselves in more frequent mobile contact with others.

2. Related Work

Numerous studies have explored how mobile devices can foster beneficial connection with friends and family members [9, 14, and 20]. Analysis of data from 514 phone interviews revealed a positive relationship between cell phone usage and psychological well-being, mediated by bonding and bridging social capital [6]. An investigation by Jiang and Hancock (2013) suggested that improved communication technology is facilitating long distance romantic relationships. They found that couples in long- distance relationships have more meaningful interactions than those who see each other on a daily basis, leading to higher levels of intimacy.

Although Morey, Gentzler, Creasy, Oberhauser, and Westerman (2013) found use of electronic communication channels (phone and texting) to be related positively to romantic relationship quality in their study of 280 young adults, individual differences in attachment moderated these effects. For instance, texting was linked to more positive relationships for highly avoidant, but not less avoidant, participants. Recent research on gender differences in reactions to mobile technology has yielded inconsistent results. Lipscomb, Totten, Cook, and Lesch (2007) found no significant differences between males and females in use of and opinions about cell phones, whereas Raacke and

Bonds-Raacke (2008) found that college women were more likely to set their profiles to private and log on fewer times per day than college men. In contrast, Angster et al. (2010) detected no differences between males and females in frequency of texting, number of cell phone contacts, frequency of phone calls, or the number of times they check their social networking sites. Men had fewer friends on social networking sites and more often had their profiles set to private. Men were also more likely to use their phones in public, text and call when in line at a store, and text while conversing with others.

Other individual differences, such as self-esteem and depressive symptoms, may also mediate reactions to cellphone technology during face-to-face interactions. Yen, Tang, Yen, Lin, Huang, Liu, and Ko (2009) noted that adolescents classified as having significant depression were more likely to engage in problematic cellular phone use. Similarly, Ha, Chin, Park, Ryuve Yu (2008) found higher depressive symptoms among those who used their phones excessively; they also had greater difficulty expressing emotions, higher interpersonal anxiety, and lower self-esteem. However, making phone calls with high frequency appears to lower loneliness in teenagers [19], although it is associated with greater loneliness in the general population [11].

Since recent work underscores the importance of interpersonal problems in depression and the value of improving relationships in reducing depressive symptoms, clarifying any special sensitivity of depressed or low self-esteem young adults to mobile device-based interpersonal relationship disruption could be useful clinically. Previous research has demonstrated that depression is associated with distinctive interpersonal responses, including reduced empathy following others' success and failure [3]. Undergraduates with mild depression scored lower on the Freudenfreude (joy in response to others' joy) scale of the Freudenfreude and Schadenfreude Test [3]. This lower level of Freudenfreude is thought to reduce relationship satisfaction, because Freudenfreude is mutually reinforcing and fosters greater intimacy. In depression, friendships may be compromised because depressed individuals respond more negatively to peers' success. Increasing empathic support following another's success (Freudenfreude) is believed to improve relationships among those with depression.

Addressing this Freudenfreude deficit via Interpersonal Mutuality Training (IMT) was shown to be helpful in both a pre-post effectiveness study [4] and a

randomized controlled trial [5]. The effectiveness study found that ratings of relationship quality increased following two weeks of IMT for both of the two designated target relationships identified by the participants. This suggests that this training worked to enhance relationships. Additionally, depressive symptom (BDI-II) scores decreased following IMT. This reduction in depressive symptoms was presumed to be a consequence of enhanced interpersonal functioning. The efficacy RCT compared IMT with a TAU control, Active Listening Training (ALT). Ratings of mood and target relationships were better in the experimental IMT than the ALT group following a 2 week training period. These findings suggest that enhancing interpersonal relationships can help to improve mood and ameliorate depression. If mobile technology has the potential to imperil proximate relationships by reducing empathy, this problem may be especially serious among those at risk for depression, some of whom may already manifest empathy deficits.

3. Method

Participants

The sample consisted of 228 undergraduate volunteers enrolled in an introductory psychology course at a small, liberal arts college in the mid-Atlantic region of the U.S. (98 male and 130 female students). Students' ages ranged from 18 to 24 years (with a mean of 18.98 and *S.D.* of 1.02).

Measures

All participants completed a packet containing the following four paper-and-pencil self-report instruments: The author-devised Cellphone Relationship Disruption Index (CRDI), which consists of six 4-point Likert-format items, was used to assess experience with others' mobile device use during face-to-face encounters, participants' own use, and participants' subjective response to others' use. Empathy was assessed using the Davis Interpersonal Reactivity Index [7]. The DIRI is a 28 item self-report questionnaire. The DIRI contains four subscales measuring fantasy, perspective taking, empathic concern, and personal distress. Nine of the items on the DIRI are negatively coded. The 10-item Rosenberg Self Concept Scale [18] was used to measure self-esteem. Subjects were asked to indicate on a 4-point Likert scale how strongly they agreed or disagreed with statements assessing participants' perceptions of their self-worth and competence. Depression was assessed using the Beck Depression Inventory-II [2]. This self-report measure contains 21 items scored on a scale of 0 to 3. Each question assesses a symptom of depressive disorders.

4. Results

Does cellphone use often leave us feeling ignored during face-to-face encounters with our significant other?
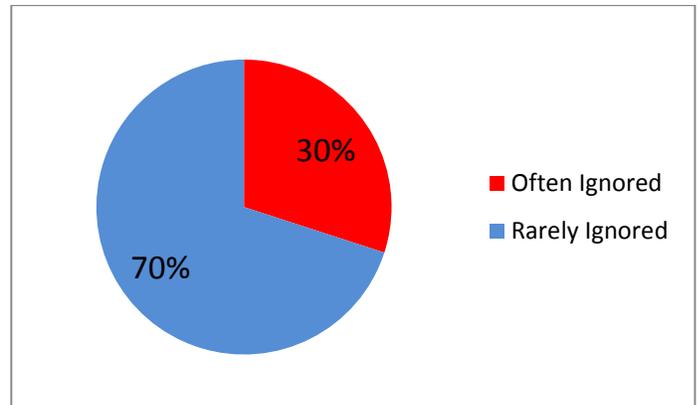

Figure 1.

Nearly a third of those surveyed reported routinely being ignored by their significant other. On the other hand, over two thirds of people reported rarely or never experiencing being ignored. Yet only 9% of respondents reported never having been ignored by their significant other due to mobile device use.

Roughly half (52%) of those surveyed reported that female friends *routinely (often or almost always)* ignore them in favor of cell phones and tablets during face-to-face interactions. Only **3%** stated that their female friends never ignore them in order to attend to devices.
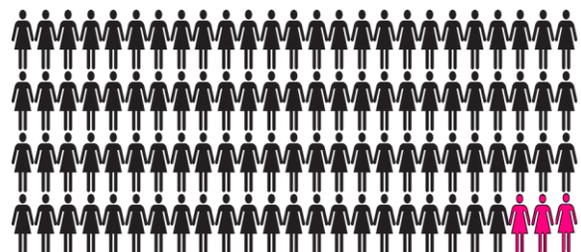

Figure 2.

Women aren't the only offenders; **43%** of those surveyed reported that their **male** friends *routinely* use cell phones during face-to-face encounters.

Perceived Male vs. Female cell phone use during face-to-face encounters
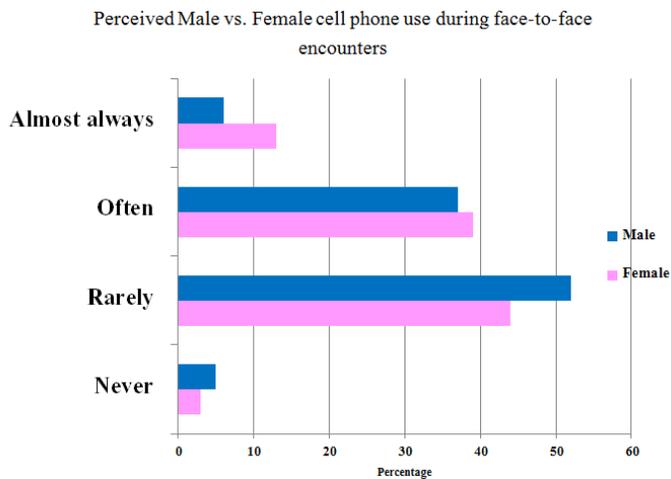
Figure 3.

However, some sex differences emerged as significant. An independent samples t-test revealed a significant difference in males' and females' perception of females' tendency to use their cell phone during face-to-face encounters (t= 3.17, df= 217, p= .002). Women reported greater cellphone distraction in their encounters with female friends than men did.
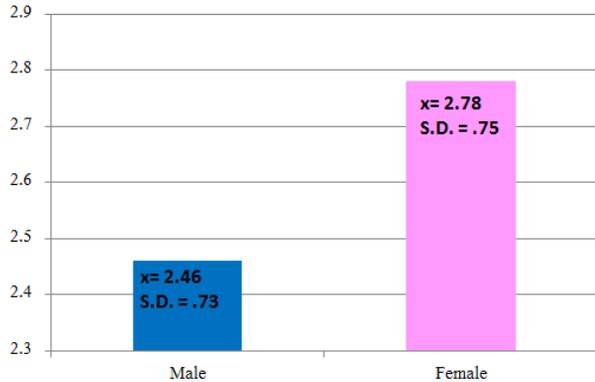

Figure 4.

No significant difference in males' and females' perception of males' cell phone use during face-to-face encounters was found.

4.1. Is Cellphone Use by Others Bothersome?

When participants were asked about the extent to which others' attending to mobile devices during face-to-face encounters bothered them, 44.5% of the sample expressed frequent annoyance. A minority (16%) of respondents reported that they almost always found others' use of cellphones during encounters to be bothersome.

4.2. Does Cellphone Distraction Compromise Empathy?

Collectively, about half (54%) of those surveyed often or almost always felt that when their friend was on the phone while they were together talking that it interfered with the friend's ability to express empathy. However, 45% of those surveyed indicated that they never or rarely felt this way.

4.3. Acknowledging One's Own Distraction

Over 1/3 of the respondents admitted to often or almost always paying attention to their cellphone/tablet during face-to-face encounters with a friend. Half of those surveyed reported that they only rarely pay attention to their cellphone/tablet when talking to a friend in person. A minority (7%) of the young adults reported that they **never** pay attention to their cellphone/tablet when talking to a friend in person.

There seems to be limited denial of one's own tendency to be distracted by mobile devices during face-to-face encounters. Roughly half (50%) of people reported they only rarely pay attention to their cellphone/tablet when talking to a friend in person. Consistent with this, roughly half (52%) of those surveyed reported that female friends routinely ignore them and (43%) reported that their male friends routinely use cell phones during face-to-face encounters. Participants seemed to accurately gauge and acknowledge their distraction during face-to-face encounters.

4.4. Individual Differences

Are there individual differences in perceptions of cellphone interruptions during face-to-face encounters? Are certain types of people more annoyed when others attend to their mobile devices? Do certain individuals experience greater relationship disruption due to cellphone use?

Directionally adjusted items were totaled to create scores for all participants on the individual difference variables. Median splits were performed on each variable, yielding low and high scoring groups for each individual difference characteristic. Independent samples t-tests were used to compare these low and high scoring groups on the CRDI items.

4.5. Differences in Perceptions of Cellphone Relationship Disruption between Low and High Scorers on the Perspective-taking Subscale of the DIRI Empathy Measure

An independent samples t-test revealed that those who scored low on the perspective taking scale of the DIRI were more likely to pay attention to their mobile device while friends are talking to them in person (Low x=2.46, SD=.67 versus High x=2.23, SD=.63; t=2.46, df=192, p=.01).

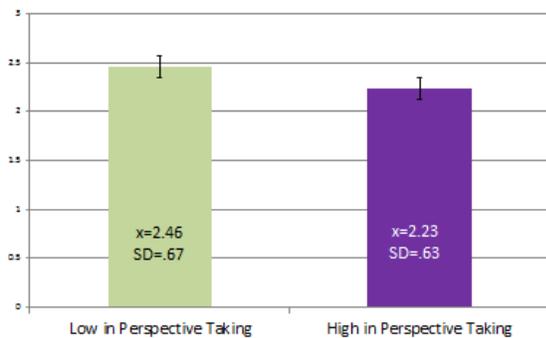High and low perspective-taking participants' self-reported cellphone distraction

Figure 5.

No significant associations were found between scores on the perspective-taking scale and perceptions of men's or women's mobile device use in face-to-face encounters, or how bothersome or disruptive such use can be. No other differences related to dimensions of empathy emerged.

4.6. Differences in Perceptions of Cellphone Relationship Disruption between Low and High Depression Young Adults

Participants with higher depression scores on the BDI-II were more likely to perceive that the use of cell phones and tablets blocks the experience/expression of empathy by their friends or significant other than those with lower depression. The high depression participants were also more bothered by such use than their less depressed peers.

A trend in the data suggested that participants with high depression were more bothered by their friends' and significant others' distraction with a cell phone or tablet during conversation.

Perceived Empathy Interference when a friend or significant other pays attention to a cellphone or tablet during conversation (t= 2.51, df= 223, p< .05)
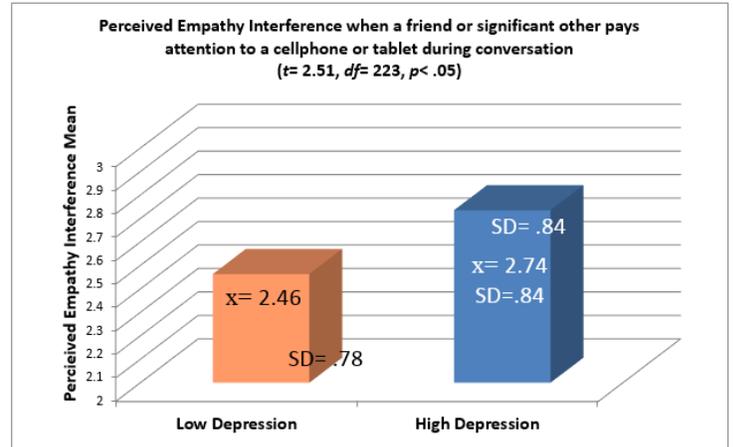
Figure 6. Reported experience of empathy interference when a friend or significant other pays attention to a cell phone or tablet during conversation in low and high depression groups (t= 2.51; df= 223; p< .05).

Being bothered when a friend or significant other pays attention to a cellphone or tablet during conversation (t= 1.85, df= 223, p= .06)
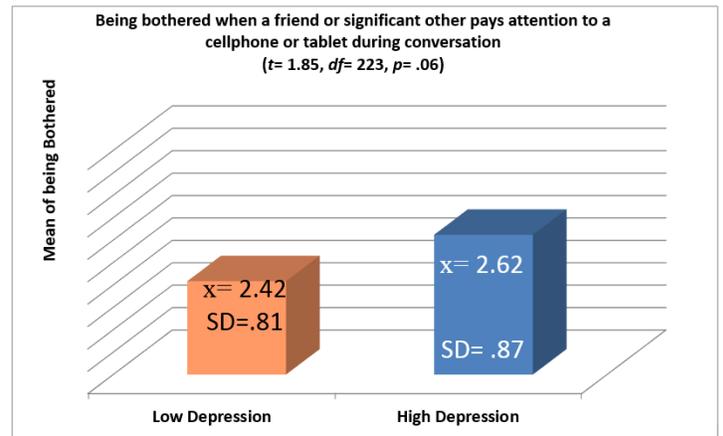
Figure 7. Reported experience of being bothered when a friend or significant other pays attention to a cell phone or tablet during conversation in low and high depression groups (t= 1.85; df= 223; p= .06).

4.7. Differences in Perceptions of Cellphone Relationship Disruption between Low and High Self-esteem Young Adults

Self-esteem affected both perceptions of others' distraction and its interference with empathy, as well as the irritation associated with these phenomena. When compared with high self-esteem peers, those lower in self-esteem felt more ignored and perceived greater loss of empathy in their relationships as a result of cellphone use. Lower self-esteem participants also were more bothered by others' cellphone use during face-to-face encounters.

Figure 8. Perceived cellphone distraction in significant others (Does your significant other pay attention to cell phones or tablets while you are talking to them in person?) in low and high self-esteem groups (t= 3.87, df= 195, p< .001).

Figure 9. Perceived cellphone distraction in female friends (Do most of your female friends pay attention to cell phones or tablets while you are talking to them in person?) in low and high self-esteem groups (t= 2.52, df= 222, p= .01).

Figure 10. Reported experience of being bothered when a friend or significant other pays attention to a cell phone or tablet during conversation (When this happens, does this bother you?) in low and high self-esteem groups(t= 2.63, df= 212, p= .009).
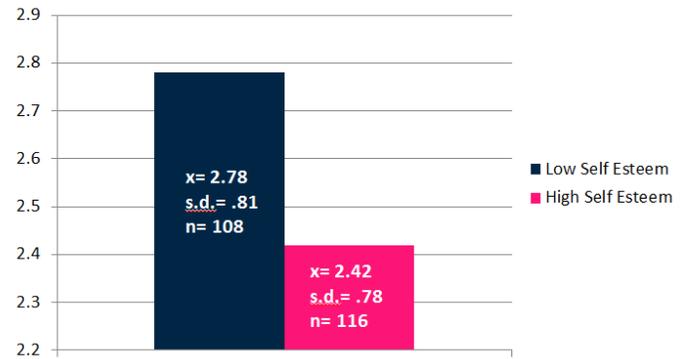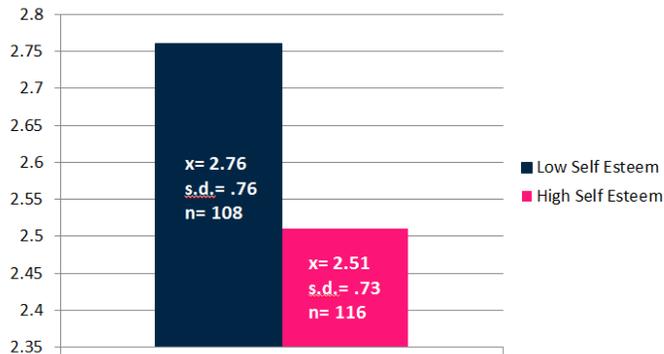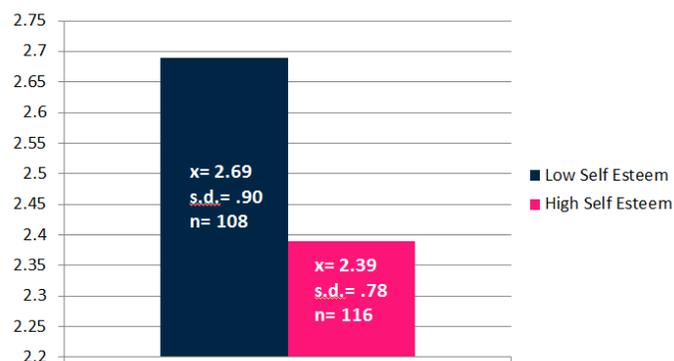

Figure 11. Reported experience of empathy interference when a friend or significant other pays attention to a cell phone or tablet during conversation (When this happens, does this interfere with their ability to express empathy/share your emotional experience?) in low and high self-esteem groups(t= 3.34, df= 222, p= .001).

5. Discussion

It is clear from these findings that a substantial number of young adults have experienced mobile device use as disruptive in their face-to-face encounters. Distraction seems to be more of a problem when interacting with women than men, especially for other women. Various factors could contribute to this. Women may have more extensive social connections, yielding more opportunities for distraction. They may also value social communication more than men. Women may believe they are more adroit than men at social multitasking. Alternatively, women may experience greater conflict about failing to respond to incoming messages while they are conversing with others. They may have a greater desire to maintain both the relationship with the person at the other end of the cell phone and the person immediately present. This greater conflict or greater fear of recrimination may explain why women are seen as more likely to disrupt conversations with mobile device use.

Why might women pay more attention to their phones when they are with other women? Women may grant each other more permission for cell phone use (perhaps because women are more relationship-focused), or at least commonly believe that they do. It is also possible that women may deprioritize their encounters with same sex friends more so than men do.

In addition, several personality dimensions were found to be associated with reactions to cellphone use. Not surprisingly, perspective-taking was inversely related to one's own use of mobile devices during face-to-face encounters. Other components of empathy were

not found to be related to mobile device use or perception of others' use. Depression appeared to enhance vulnerability to relationship disruption tied to mobile device use. More depressed individuals were more bothered by others' cellphone use and more likely to feel that devices interfere with expressions of empathy during face-to-face encounters than less depressed peers.

In contrast, self-esteem seemed to have a protective effect. Those high in self-esteem seemed more immune to this problem; they were less bothered than low self-esteem participants, perceived less frequent disruptions, and did not feel that these distractions interfered with expressions of empathy. Taken together, it seems that those with low self-esteem and more symptoms of depression may be especially vulnerable to this type of social hazard. They may be unusually sensitive to losing others' attention. Alternatively, it is possible that being critical of others' use of devices damages relationships and that these resulting relationship problems may contribute to depression and reduce self-esteem. Depression both compromises interpersonal relationships and is compounded by poor relationships. If the hazards to relationships posed by mobile technology are more pronounced among those prone to depression, clarifying these risks may be important for both prevention and treatment of depression.

Ironically, while evolving communication technologies help us feel closer to those who are distant, they can also psychologically distance us from those who are close by. These findings indicate that mobile devices often distract listeners during face-to-face encounters and disrupt expressions of empathy, and that young adults acknowledge this to be a problem in many of their own intimate relationships. The results also demonstrate that individual differences have an important effect on how one experiences the intrusion of mobile devices in proximate relationships. Realizing how a friend or partner may experience this threat to empathy differently could help individuals respond more considerately and sensitively. This could mitigate the potentially disruptive impact of mobile device use on intimate relationships. Further research using a larger sample with a more diverse age range, possibly exploring additional individual differences, could determine the generalizability of these findings and further clarify these issues.

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