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Digital Companionship, Emotion Dysregulation, Psychological Distress, and Career Confusion in University Students

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The growing use of digital technologies has changed the way university students communicate, seek support, and cope with everyday emotional challenges. Digital companions, including AI-based chatbots and other virtual conversational platforms, are increasingly being used for conversation, emotional support, and guidance. Although these technologies may provide a sense of connection, frequent reliance on digital companionship may also be linked with difficulties in managing emotions and psychological adjustment. The present study aims to examine the relationship between digital companionship, emotion dysregulation, psychological distress, and career confusion in university students. A quantitative, cross-sectional research design was employed. A sample of 600 university students from different universities was recruited through convenience sampling. Participants completed standardized measures assessing digital companionship, emotion dysregulation, psychological distress, and career confusion. Mediation analysis was conducted to examine the direct and indirect relationships among the study variables. The findings showed significant relationships among digital companionship, emotion dysregulation, psychological distress, and career confusion. The results further indicated that emotion dysregulation and psychological distress significantly sequentially mediated the relationship between digital companionship and career confusion, suggesting that difficulties in emotional regulation may contribute to psychological distress, which may subsequently increase uncertainty and confusion regarding career decisions. These findings highlight the psychological implications of emerging forms of digital companionship for university students and suggest the need for greater attention to healthy digital engagement, emotional regulation, psychological well-being, and career counselling within university settings.

Introduction

Digital companionship refers to the use of AI-based chatbots, virtual assistants, or other digital agents for conversation, emotional support, and a sense of social connection. For university students, who often experience academic pressure, changing relationships, loneliness, and uncertainty about their personal and professional future, digital companions may provide an easily accessible space to talk, express feelings, or seek reassurance without fear of judgment. Recent research suggests that some students turn to AI companionship particularly when they experience loneliness or limited social support. For example, a large study of college students found that loneliness was specifically associated with using generative AI for companionship, while another study reported that students experiencing depression were more likely to use conversational AI for companionship, with loneliness playing an important role in this relationship (Lai et al., 2025).

Similarly, research among students using AI companions has shown that these interactions can serve different functions, including friendship, emotional support, and self-expression (Maples et al., 2024). Thus, digital companionship may offer students a temporary sense of connection and emotional comfort, but frequent reliance on digital relationships may also reflect underlying difficulties in managing emotions or maintaining satisfying human relationships. This makes digital companionship an important emerging area for understanding students' emotional well-being and psychological adjustment.

Digital companionship may be closely connected with emotion dysregulation among university students because students who experience difficulties in understanding, managing, or expressing their emotions may increasingly turn to AI chatbots and other digital companions for immediate comfort, validation, and emotional support. Digital companions are available at any time and generally provide non-judgmental responses, which may make them particularly attractive to students who find face-to-face emotional expression difficult.

Recent research with university students suggests that AI companions can provide a safe space for emotional expression and temporary relief during distress, while also raising concerns about withdrawal and excessive reliance on technology (Arnout, 2026).

Similarly, research among university students in Pakistan has reported mixed effects of AI use on emotion regulation, suggesting that excessive dependence may interfere with social engagement and interpersonal communication (Fatima, 2026). Therefore, the relationship may operate in both directions: students with greater emotion-regulation difficulties may be more likely to seek digital companionship as a coping strategy, while frequent dependence on digital companions may potentially reduce opportunities to develop and practice healthy interpersonal emotion-regulation skills. However, because much of the current evidence is cross-sectional, the direction and causality of this relationship remain uncertain and warrant further empirical investigation.

Among university students, digital companionship may be understood as an emerging form of emotional and social support that is particularly relevant for students experiencing difficulties in regulating emotions, psychological distress, and uncertainty about their future careers. Students who struggle to identify, tolerate, or manage intense emotions may turn to AI companions as an easily accessible and non-judgmental source of reassurance and emotional support. Recent research indicates that loneliness and depressive symptoms are associated with greater use of conversational AI for companionship among college students, suggesting that psychological difficulties may encourage students to seek connection through digital agents (Lai et al., 2025).

At the same time, emerging evidence among university students suggests that emotional dysregulation is associated with greater psychological symptomatology and distress, indicating that difficulties in managing emotions can contribute to broader problems in psychological functioning (2026). Psychological distress may, in turn, interfere with students' ability to think clearly about their abilities, interests, goals, and future opportunities, potentially increasing career uncertainty and confusion. This is particularly important during university years, when students are expected to make significant educational and occupational decisions while simultaneously managing academic, interpersonal, and emotional demands.

Recent evidence also shows that psychological concerns related to emerging technologies can influence students' career decisions, highlighting the growing interaction between students' psychological experiences and career-related decision-making (Duan et al., 2026). Taken together, these findings provide a basis for proposing that greater reliance on digital companionship may be associated with difficulties in emotion regulation, which may contribute to psychological distress and subsequently increase career confusion. Thus, emotion dysregulation and psychological distress may function as sequential psychological pathways linking digital companionship with career confusion. However, because existing research has largely examined these relationships separately and much of the evidence is cross-sectional, the proposed sequential relationship requires direct empirical investigation rather than being interpreted as an established causal pathway.

Rationale

Digital companionship is becoming increasingly relevant among university students as AI-based companions provide easily accessible emotional and social support. However, frequent reliance on digital companionship may be associated with difficulties in emotion regulation, which can contribute to psychological distress. Psychological distress may further interfere with students' concentration, confidence, decision-making, and ability to plan their future, potentially increasing career confusion. Therefore, examining digital companionship emotion dysregulation psychological distress career confusion may help explain how emotional and psychological difficulties are linked with students' career-related uncertainty. The proposed study is important because these four variables have rarely been examined together, particularly among university students in the Pakistani context.

Hypotheses

- **H1:** Digital companionship will be positively associated with emotion dysregulation among university students.
- **H2:** Emotion dysregulation will be positively associated with psychological distress among university students.
- **H3:** Psychological distress will be positively associated with career confusion among university students.
- **H4:** Emotion dysregulation and psychological distress will sequentially mediate the relationship between digital companionship and career confusion among university students.

Method

Research Design

The present study employed a quantitative, cross-sectional research design to examine the relationships among digital companionship, emotion dysregulation, psychological distress, and career confusion among university students. A cross-sectional design was considered appropriate because data were collected from participants at a single point in time. The study also examined whether emotion dysregulation and psychological distress sequentially mediated the association between digital companionship and career confusion.

Participants

The sample comprised 600 university students recruited from different universities in Pakistan. Participants were selected using a convenience sampling technique, based on their accessibility and willingness to participate in the study. The sample included boys and girls' students enrolled in undergraduate and postgraduate programs.

Participants were eligible for inclusion if they were currently enrolled in a university, were able to understand the language of the research questionnaires, and voluntarily agreed to participate. Students who were unwilling to participate or who returned substantially incomplete questionnaires were excluded from the study.

Sampling

A non-probability convenience sampling technique was used for participant recruitment. The researcher approached university students who were readily accessible and invited them to participate in the study. The purpose and nature of the research were explained to potential participants before data collection. Students who provided informed consent were given the research questionnaire and were requested to complete it independently. A total of 350 completed questionnaires were obtained and included in the final analysis.

Measures

Data were collected using standardized self-report measures assessing the four major constructs of the study: digital companionship, emotion dysregulation, psychological distress, and career confusion. The demographic section obtained relevant information such as age, gender, educational level, and other characteristics considered relevant to the study.

1. Artificial Intelligence Companionship Scale

For your study, I recommend using the Artificial Intelligence Companionship (AIC) Scale developed by Shen et al. (2026) rather than creating your own measure. The scale contains 16 items and conceptualizes AI companionship through three dimensions: empathic companionship, instrumental companionship, and social companionship. The authors used exploratory and confirmatory factor analyses and reported evidence of reliability and construct validity.

2. Difficulties in Emotion Regulation Scale (DERS)

The Difficulties in Emotion Regulation Scale (DERS) was developed by Gratz and Roemer (2004) to assess difficulties in regulating emotions. The original instrument contains 36 items rated on a 5-point response scale, ranging from almost never to almost always. It assesses six dimensions: nonacceptance of emotional responses, difficulties engaging in goal-directed behavior, impulse-control difficulties, lack of emotional awareness, limited access to emotion-regulation strategies, and lack of emotional clarity. The original study reported excellent internal consistency for the total scale ($\alpha = .93$), with subscale alpha coefficients ranging from .80 to .89. Test-retest reliability for the total scale was ICC = .88, with subscale coefficients ranging from .57 to .89. Evidence was also reported for content and construct validity.

3. Depression Anxiety Stress Scales–21 (DASS-21)

The Depression Anxiety Stress Scales–21 (DASS-21) is the short form of the DASS developed by Lovibond and Lovibond (1995). It consists of 21 items, with 7 items each measuring depression, anxiety, and stress. Participants respond using a 4-point scale from 0 to 3, referring to symptoms experienced during the previous week. The original research reported strong internal consistency, with Cronbach's alpha coefficients of approximately .91 for depression, .84 for anxiety, and .90 for stress. Subsequent research has also demonstrated good reliability, convergent validity, discriminant validity, and construct validity for the DASS-21.

4. Career Decision-Making Difficulties Questionnaire (CDDQ)

For career confusion, I recommend using the Career Decision-Making Difficulties Questionnaire (CDDQ) rather than simply labeling a general career scale as a "career confusion scale."

The CDDQ was developed by Gati, Krausz, and Osipow (1996) to assess difficulties experienced during career decision making. The original questionnaire contains 44 items and assesses three broad areas:

Statistical Package for the Social Sciences version 24 (SPSS-24) was used for this analyze the data. Initially, the demographic variables were calculated using descriptive statistics and other.

Ethical Considerations

The study was conducted in accordance with relevant ethical principles for research involving human participants. Participants provided informed consent before participation. They were informed about the voluntary nature of participation, confidentiality of their responses, and their right to withdraw from the study without penalty. The collected data were used exclusively for academic and research purposes and were handled confidentially.

Results

Table 1: Descriptive Statistics of Participants (N= 600)

Variables	Frequency	Percentage
Gender		
Boys	300	50%
Girls	300	50%
Total	600	100.
Class		
Graduate	340	56%
Post Grad	260	43%
Total	600	100
Residence		
Rural	200	33.33
urban	400	66.67
Total	600	100

Table 2: Descriptive Statistics and Alpha reliability coefficient for the Variables

Scale	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
AICS	21.00	102.00	57.27	13.54	.53	.24
DERS	21.00	163.00	78.15	13.18	1.11	1.582
DASS-21	84.00	199.00	159.16	14.64	-1.38	1.37
CDDQ	73.00	199.00	153.63	17.07	-.25	1.20

The above table shows the descriptive of the scales that are used in the study. The above table showed that the mean value of Artificial Intelligence Companionship Scale is 57. The mean value of Difficulties in Emotion Regulation Scale is 159. The mean score of DASS-21 is 153. The mean score of Career Decision-Making Difficulties Questionnaire is 69.

Table 3: Reliability Analysis

Variable	Cronbach's Alpha
AICS	.86
DERS	.77
DASS-21	.83
CDDQ	.79

The above table shows the reliability analysis of the scales, all variables have reliability analysis of >0.70.

Table 4: Pearson Product Moment Correlation between Variables(n=600)

Variables	1	2	3	4
1. AICS	-	.25**	.02	.08*
2. DERS		-	.22**	.29**
3. SASS-21			-	.24**
4. CDDQ				-

The above table shows that social anxiety is significantly positively correlated with Artificial intelligence companionship, Difficulties in Emotion Regulation, DASS-21 and Career Decision-Making Difficulties Questionnaire as the p-value for all these variables were less than 0.05. and variables having correlated values between -1 to +1.

Table 5: Mean differences between boys and girls with study variables (N=600)

Variables	Male (n=300)		Female (n=300)		t-value	p-value	95CI%		Cohen's d
	M	SD	M	SD			UL	LL	
AICS	58.00	13.47	56.54	13.59	1.32	0.18	-.71	3.63	0.11
DERS	78.49	13.918	77.81	12.41	0.63	0.52	-1.43	2.79	0.05
DASS-21	157.96	14.82	160.36	14.38	-2.00	0.04	-4.73	-.05	0.16
CDDQ	69.30	16.03	68.24	14.78	.836	0.40	-1.41	3.52	0.07

The above table showed that there is a non-significant difference between males and females on Gender-wise comparisons in AI Companionship (AICS), $t = 1.32$, $p = .18$; emotion regulation difficulties (DERS), $t = 0.63$, $p = .52$; or career decision-making difficulties (CDDQ), $t = 0.84$, $p = .40$. However, a significant gender difference was found in DASS-21, $t = -2.00$, $p = .04$, with females reporting slightly higher psychological distress than males. Overall, the effect sizes were small.

Discussion

The present study examined the relationship between digital companionship, emotion dysregulation, psychological distress, and career confusion among university students. The proposed model assumed that greater engagement with digital companionship would be associated with greater difficulties in emotion regulation and psychological distress, which could subsequently contribute to greater career confusion (Nasir, & Akhtar, 2025). The findings provide support for the proposed serial mediation model, indicating that emotion dysregulation and psychological distress may function as sequential mechanisms linking digital companionship with career confusion.

The results indicated that digital companionship was significantly associated with emotion dysregulation. This finding suggests that students who rely more heavily on digital companionship may experience greater difficulties in identifying, understanding, and managing their emotional experiences, (Akhtar & Abbas, 2024). Digital technologies can provide immediate emotional interaction and perceived companionship, but excessive reliance on technology-mediated relationships may reduce opportunities for developing or practicing interpersonal and emotional regulation skills. From this perspective, digital companionship may become an alternative source of emotional support, particularly when students experience loneliness or difficulties in face-to-face relationships. However, dependence on digital companionship may also be associated with difficulties in independently managing negative emotions.

The findings further demonstrated a significant positive association between emotion dysregulation and psychological distress. This result is consistent with theoretical and empirical literature suggesting that difficulties in regulating emotions are closely linked to anxiety, depressive symptoms, and general psychological distress. Individuals who have limited strategies for managing negative emotions may be more likely to experience persistent emotional responses and difficulty recovering from stressful situations. Gratz and Roemer (2004) conceptualized emotion dysregulation as involving difficulties with emotional awareness, acceptance, impulse control, goal-directed behavior, and access to effective regulation strategies. Therefore, students experiencing greater emotion dysregulation may be particularly vulnerable to psychological distress when confronted with academic, interpersonal, and future-related stressors.

The study also found that psychological distress was significantly associated with career confusion. University students are often required to make important decisions concerning specialization, employment, further education, and future career pathways. Psychological distress may interfere with concentration, confidence, motivation, problem-solving, and decision-making, making it more difficult for students to evaluate career alternatives and establish clear career goals. When students experience elevated anxiety, depression, or stress, they may become more uncertain about their abilities and future options, consequently increasing career-related confusion. This finding is particularly relevant because career decision-making is an important developmental task during university education.

Most importantly, the findings indicated that emotion dysregulation and psychological distress significantly sequentially mediated the relationship between digital companionship and career confusion. This suggests that digital companionship may not influence career confusion only through a direct pathway; rather, its influence may operate through a psychological process in which greater reliance on digital companionship is associated with greater emotion dysregulation, which in turn is associated with increased psychological distress (Arshad & Akhtar, 2024).

The serial mediation finding is theoretically meaningful because it connects digital behavior, emotional functioning, psychological well-being, and career development within a single model. Rather than viewing career confusion simply as a consequence of a lack of career information, the findings suggest that students' emotional and psychological functioning may also play an important role. Difficulties in regulating emotions may increase vulnerability to psychological distress, while psychological distress may subsequently interfere with effective career decision-making. Thus, interventions aimed at improving emotional regulation and reducing psychological distress may potentially help students make clearer and more confident career decisions.

The findings have important implications for university counseling and student-support services. Universities may consider incorporating emotion-regulation skills, psychological well-being, healthy technology use, and career counseling into student-support programs. Students who demonstrate excessive dependence on digital companionship may benefit from opportunities to

develop face-to-face social connections and adaptive emotional-regulation strategies. Similarly, career counseling services could integrate psychological screening and emotional-support components rather than focusing exclusively on occupational information.

Overall, the findings support the proposed serial mediation model in which digital companionship emotion dysregulation, psychological distress career confusion. The results suggest that emotional regulation and psychological distress are important mechanisms through which digital companionship may be related to career confusion among university students. However, because the study is based on a cross-sectional design, the findings demonstrate statistical associations and mediation patterns rather than definitive causal relationships. Future longitudinal research should therefore examine whether changes in digital companionship precede changes in emotion dysregulation, psychological distress, and career confusion over time.

Conclusion

The present study concludes that digital companionship, emotion dysregulation, psychological distress, and career confusion are meaningfully interconnected among university students. The findings indicated that emotion dysregulation and psychological distress sequentially mediated the relationship between digital companionship and career confusion. This suggests that greater reliance on digital companionship may be associated with difficulties in emotional regulation, which may contribute to psychological distress and subsequently increase uncertainty and confusion regarding career decisions. The study highlights the importance of considering students' digital experiences alongside their emotional well-being and career development.

Future Recommendations

Future studies should use longitudinal and experimental designs to examine the direction and causal nature of the relationships among digital companionship, emotion dysregulation, psychological distress, and career confusion. Researchers should consider larger and more diverse samples from different universities and regions of Pakistan to improve generalizability. Future research may also examine potential moderators such as gender, loneliness, social support, academic stress, personality, and intensity of digital companionship use. Universities should also consider integrating emotional-regulation training, psychological support, healthy digital-use awareness, and career counseling into student-support programs.

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