Technology Adoption and Transformation of the Vocational Rehabilitation (VR) Process: A Case Study of Counselors within State VR Agencies

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Thank you to …

- VT State VR Agency
  - Diane Dalmasse, Tim Tremblay* & staff
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* Study site contact

Presentation Outline

- Research questions
- Study premise
- Background
  - Importance of ICT adoption
  - Relevance to public systems, the VR system
- Study design & methods
- Research findings
- Conclusion, implications, & recommendations
- Discussion – Q&A

ICT Definition

A group of electronic devices

- Internet
- Videophones
- Mobile phones
- Smart phones

Application of those devices

- E-mail
- Electronic mailing lists
- Instant Messaging (IM)
- Short Message Service (SMS) texting
- Internet forums/message boards
- Video- and webconferencing
- Websites
- Blogs and wikis

Research Questions

1. What are the characteristics of the counselors who use ICT in the rehabilitation process?
2. How do they decide to use ICT and what factors play a role in this process?
3. What types of ICT do they use and for what aspects of the rehabilitation process?
4. How do they regard ICT-based VR service delivery?

Study Premise

- A better understanding of current users…
- … leads to understanding of potential users
  - Adoption decisions and use patterns
  - Variation thereof
- … and will help to more effectively integrate technology in public systems.
  - Ability to better anticipate change/reactions
  - Ability to better tailor interventions

Background: Importance of ICT Adoption

- Individual ICT adoption improves job performance (Davis, 1989; Igbaria & Tan, 1997)
- Individual ICT resistance - potential loss of performance gains (Stam et al., 2004)
- Organizational consequences

"Understanding and creating the conditions under which information systems will be embraced by the human organization remains a high-priority research issue."

(Venkatesh & Davis, 2000, p.186)

Background:
ICT Adoption – Relevant to Public Systems

- Faster, more effective and convenient service delivery and customer communication
- More efficient use of staff time and resources, documentation and data storage

  (cf. Cohen & Eimicke, 2001; US Office of Management and Budget, 2006, 2007)

- Growing customer demand and preferences for online (public) services

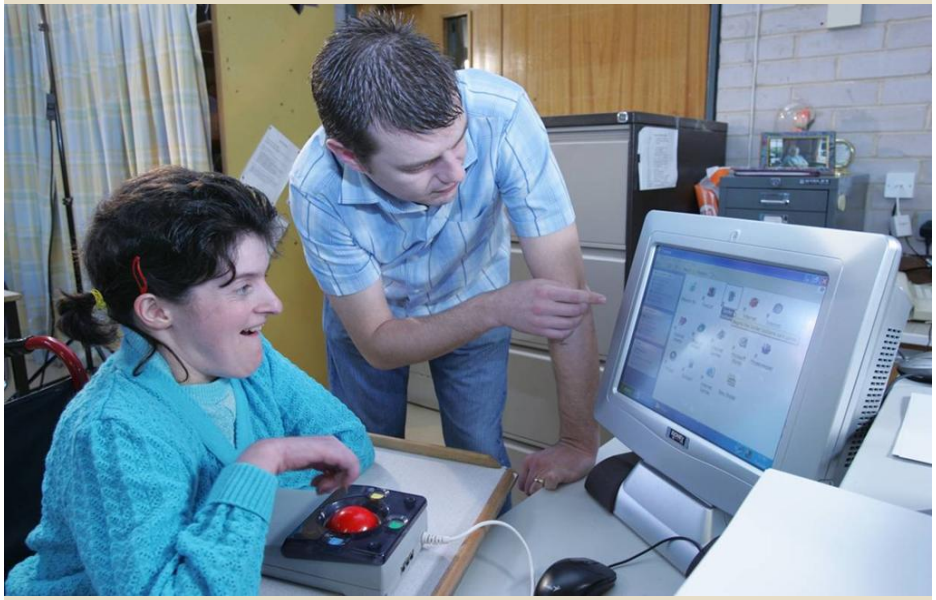
  (cf. Chang & Kannan, 2008; Horrigan & Rainie, 2002)

Background: ICT Adoption – Relevant to VR

- VR challenges (RTI, 2005; Lewis, 2008)
  - Limited and uncertain funding
  - Increased services demand
  - Changing customer base
  - Increased accountability (customer, Federal)
  - Other challenges (aging workforce, staff deployment issues, ubiquitous nature of the Internet)
- Existing research on ICT in VR
  - Emphasizes in-person customer contact to establish effective counseling relationship (cf. Patterson, 2000; Riemer-Reis, 2000)

Study Design & Methods

- A case study of *counselors* within 4 state VR agencies (MD, NY, PA, VT)
  - multiple embedded case design (Yin, 1994)
- Data collection methods:
  - Document review
  - Online counselor survey (42% response rate)
    - N=399 (incl. 112 MD, 81 NY, 168 PA, 33 VT, 5 counselors didn't report state)
  - In-depth qual. counselors interviews (N=46)
  - Counselor-customer field observations (N=14)
  - Data collected spring – summer 2009



Source: Participant in CareOnLine Project

Research Findings

Counselor Profile (N=399)

- Mostly white, not Hispanic, middle-aged women with a high education level
- More than two thirds were 41 years+
- One third reported having a disability
- Many were experienced counselors, and long-standing state VR employees
- Mostly worked in metro, urban, suburban VR offices
- All were Internet users, and most used Internet technology with customers

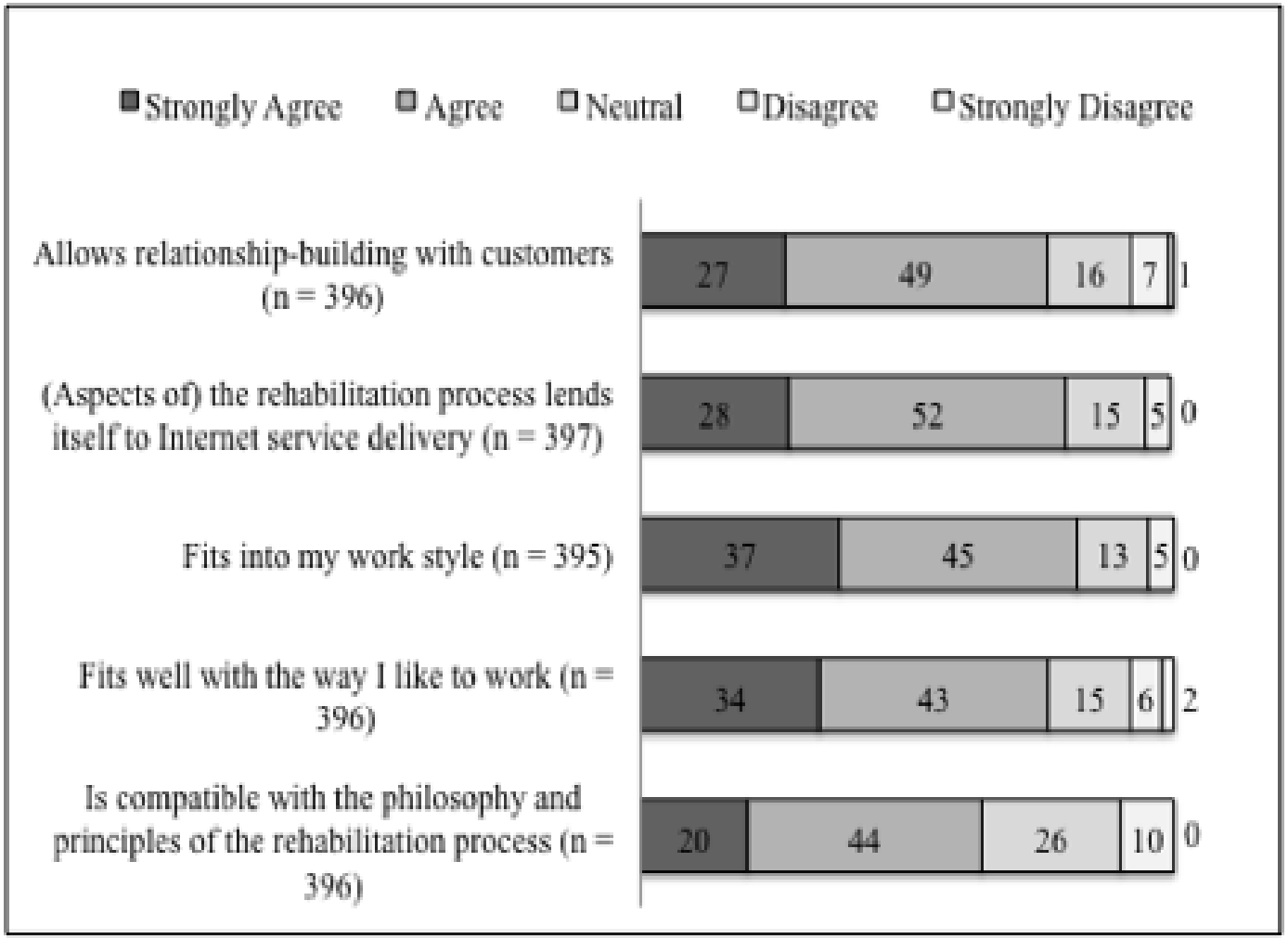
Caseload Size and Composition

- Largest number of counselors had caseloads between 101 – 200 cases (average of 130)
- Minorities, youth, and welfare recipients; mental illness and cognitive disabilities were more represented on counselor caseloads than other types of populations / disabilities
- 76% reported that more than one quarter of customers on their caseload had home Internet access and digital skills
- 65% reported using the Internet with more than one quarter of customers on their caseload

Counselor ICT Perceptions

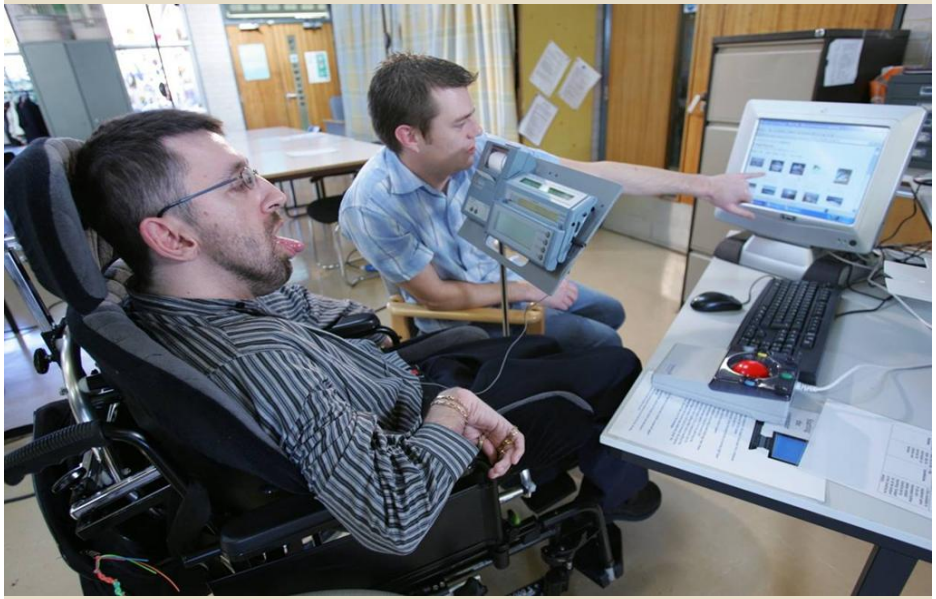
- Three quarters thought *relationship-building* with customers via the Internet is possible.
- Most thought the Internet is compatible with the *VR process*, their *work style* and *preference.*
- More than two thirds thought the Internet is compatible with the *VR philosophy.*

Figure 1: Counselor perception of Internet compatibility with the VR process, philosophy, and work styles. Numbers are percentages.



ICT Decision-Making in VR

- Discuss ICT as part of the intake interview, joint decision with customer
- Customer initiated ICT (e-mail) use
- Counselor initiated ICT (e-mail) use
- *Ad hoc* Internet (website) use in counseling sessions
- Very few required customers to use ICT



Source: Participant in CareOnLine Project

How do counselors use ICT in the VR process?

Counselor ICT Practices

- 388 / 399 used the Internet with customers
- Spanned across all population and disability types
- Almost all used e-mail and websites; two thirds used electronic mailing lists
- Mainly used to look up info, identify resources, and customer communication (>87%)
- Used less for customer intake, assessment, employment planning, and group activities (<50%)
- Found Internet less useful to identify jobs and share employment info with customers (<60%)

Figure 2: Percentages of counselors reporting ICT use by type of ICT.

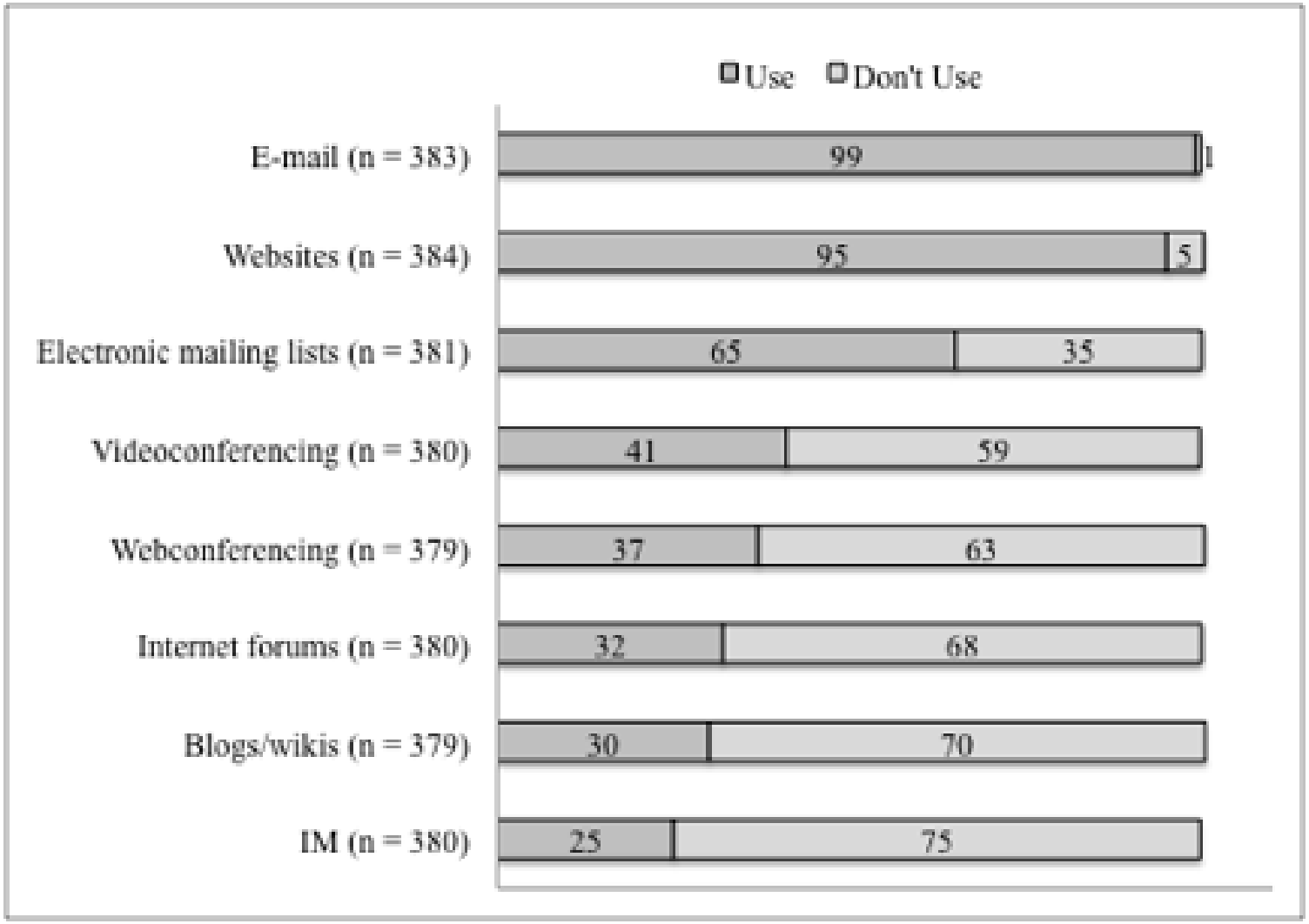


Figure 3: Percentages of counselors reporting Internet use by VR activity.

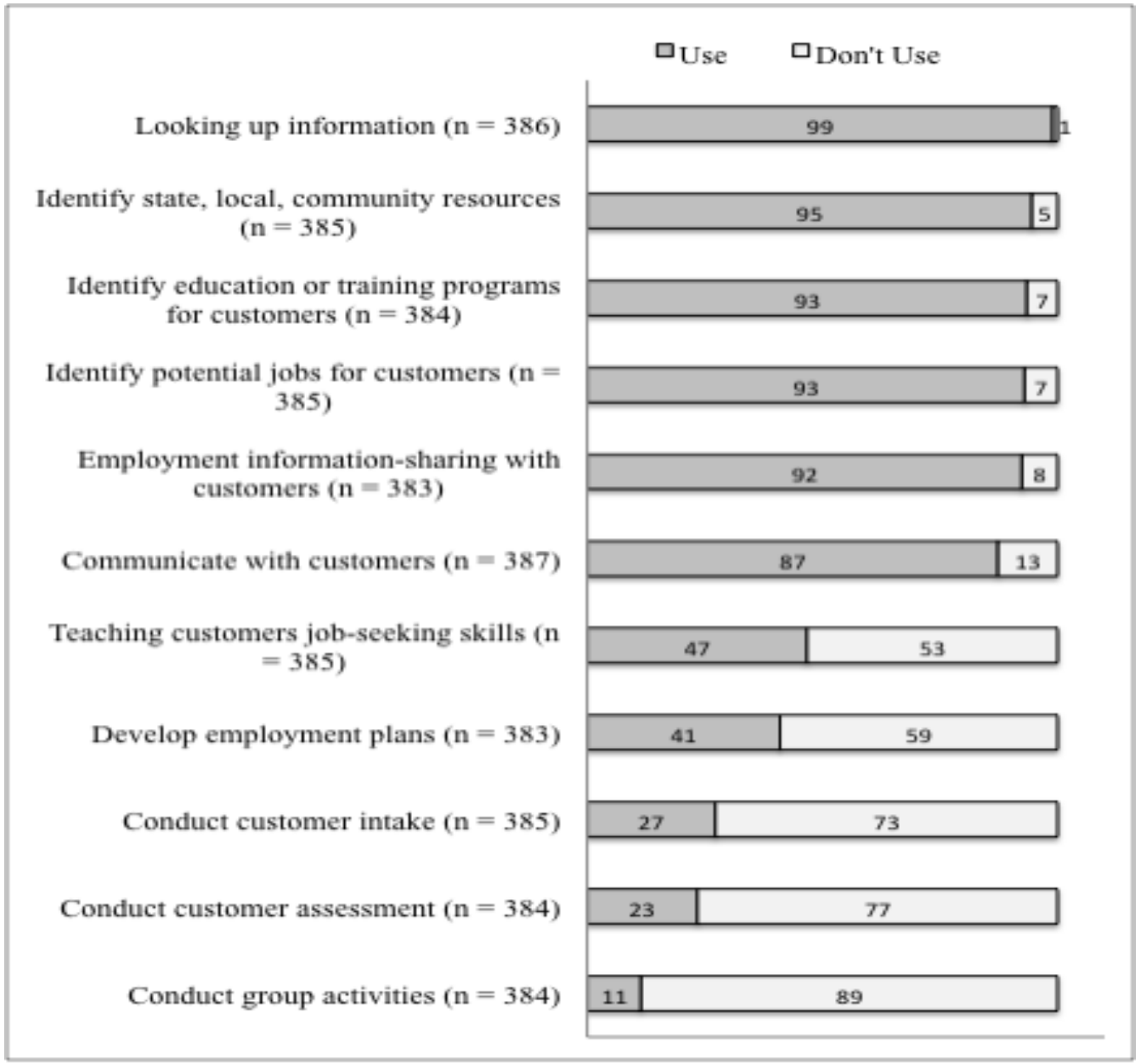
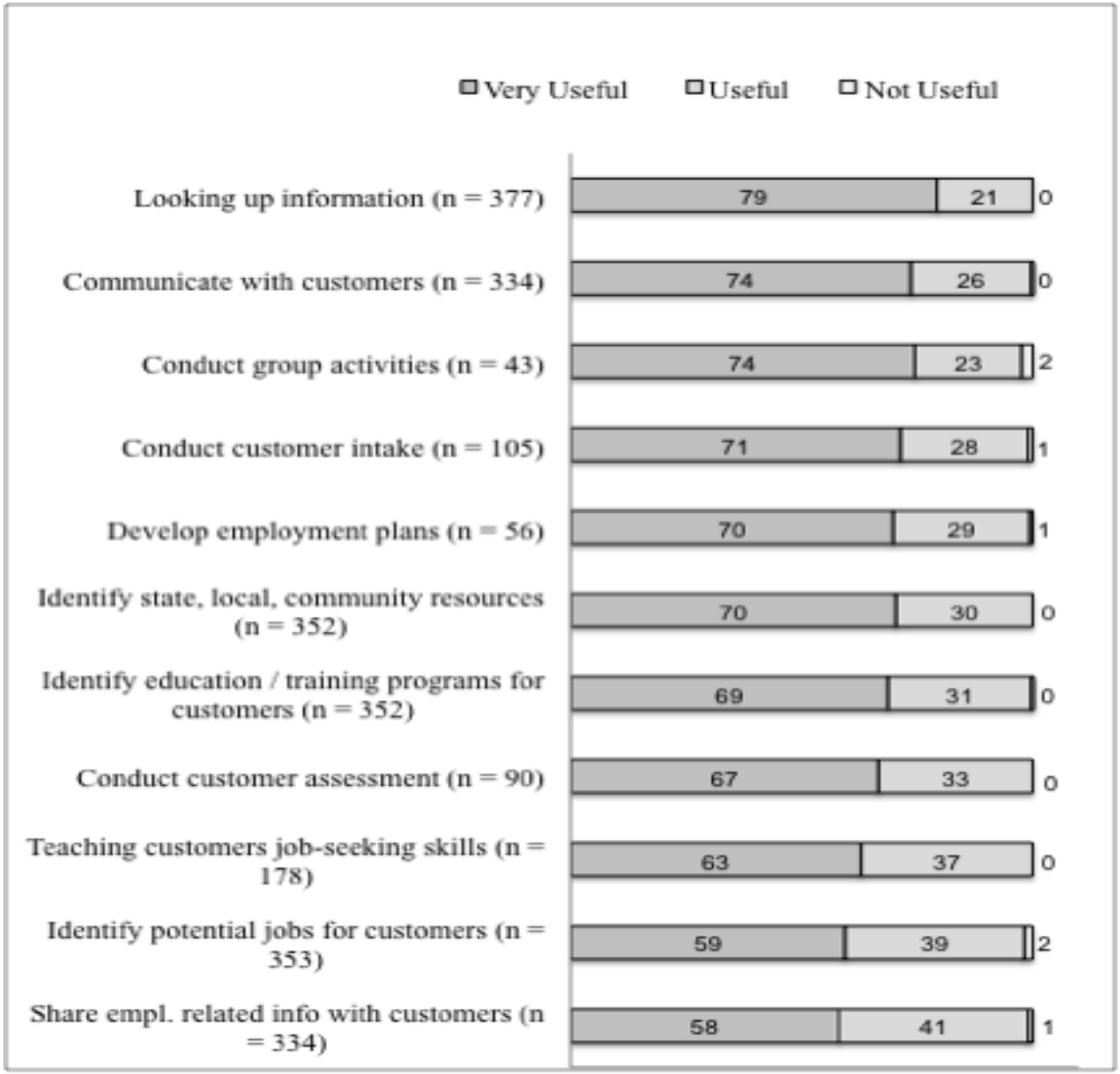


Figure 4: Counselor perception of the Internet's usefulness by VR activity. Numbers are percentages.



Counselor interview findings

Counselor ICT Use in VR

- E-mail use for communication and info sharing only
- Integrate online info search into counseling sessions
- Give customers "homework" that involves Internet use
  - Individualized supports
- Use Internet to teach job search skills
  - Example: PA's CareerLink website
- Some counselors use case management technology with customers

Counselor interview findings

Counselor Technology Role in VR

- Deal with customers who range in computer and Internet skills
- Help customers with basic computer and Internet use
- Help customers overcome their fear of computers
- Managing (electronic / non-electronic) communication
  - Level of appropriateness by communication type & topic
  - Increased customer expectations of counselors regarding communication
  - Response times differ by communication type – service inequity

Benefits of ICT Use in VR

Survey findings:

- Increased counselor job efficiency, effectiveness, and performance
- Increased customer communication, VR service access, and technology confidence

Interview findings:

- Faster service delivery and better customer service
- Enhanced customer communication, engagement and choice-making
- More effective and efficient case management

Figure 5: Counselor views (*N* = 382) of Internet use in VR and job efficiency. Respondents were asked to evaluate the statement **"Using the Internet in the VR process increases my efficiency on the job"** on a five-point Likert scale where 1 = "strongly agree," 2 = "agree," 3 = "neutral," 4 = "disagree," and 5 = "strongly disagree."

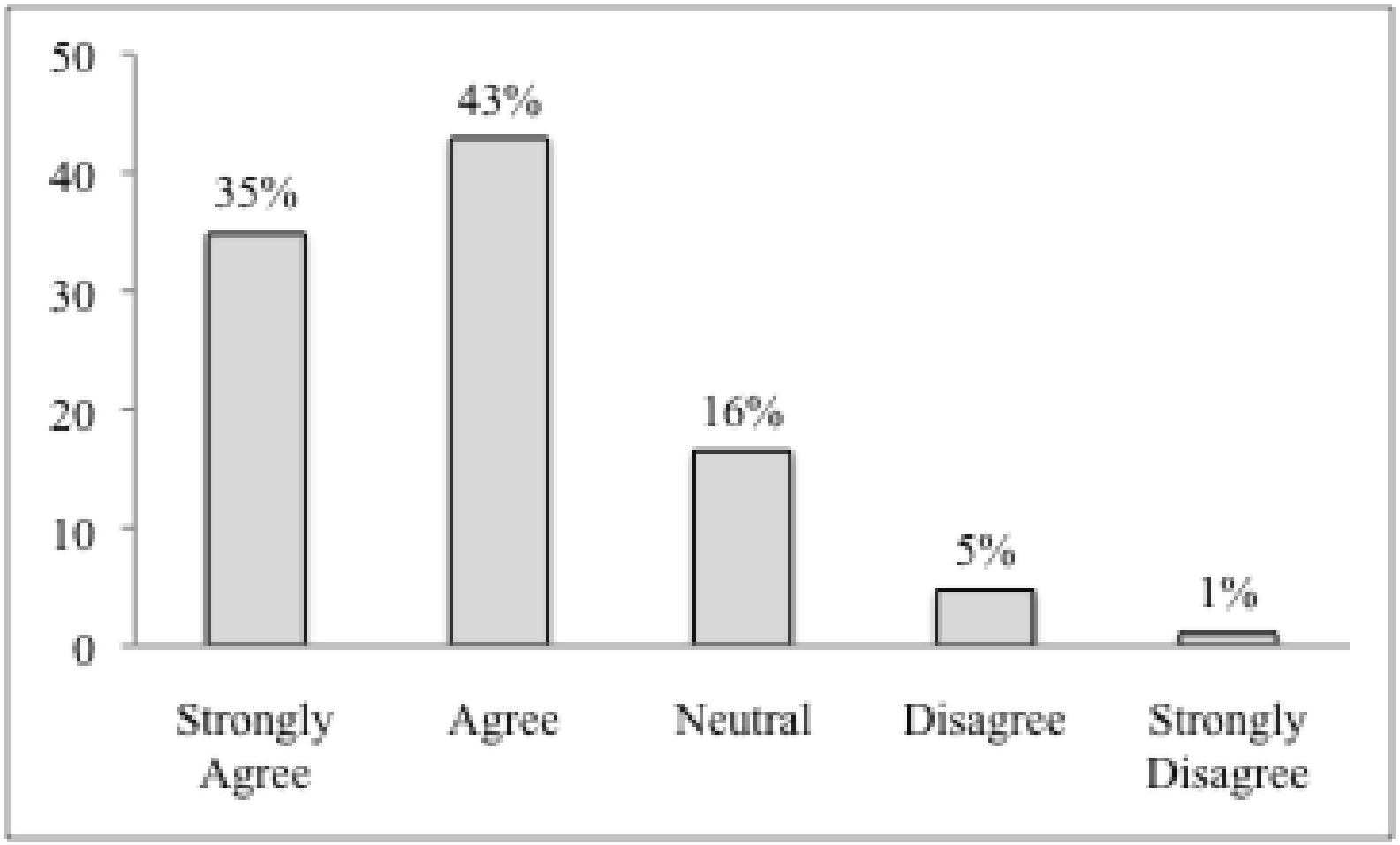


Figure 6: Counselor views (*N* = 380) of Internet use in VR and job effectiveness. Respondents were asked to evaluate the statement **"Using the Internet in the VR process increases my effectiveness in the job"** on a five-point Likert scale where 1 = "strongly agree," 2 = "agree," 3 = "neutral," 4 = "disagree," and 5 = "strongly disagree."

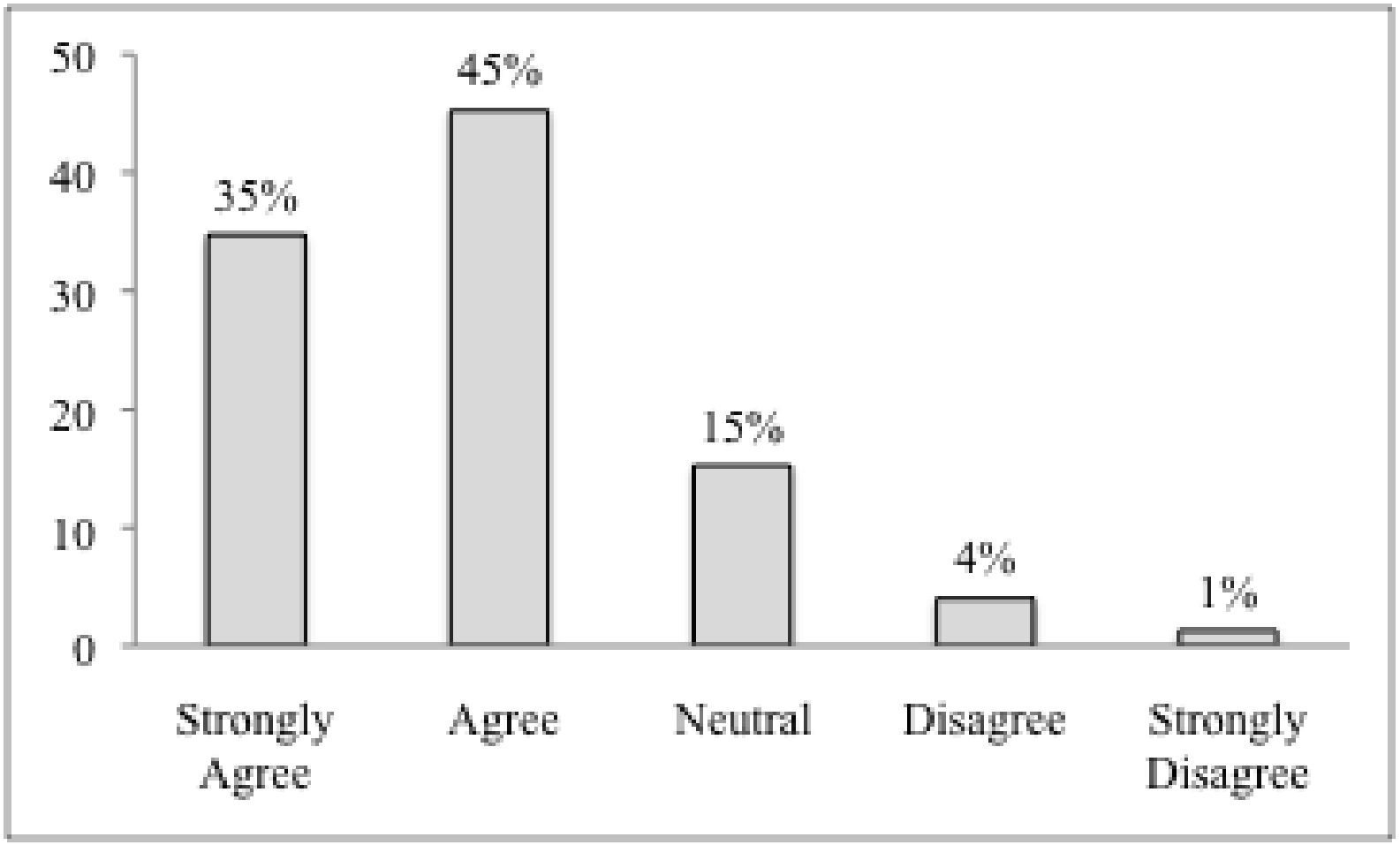


Figure 7: Counselor views (*N* = 381) of Internet use in VR and job performance. Respondents were asked to evaluate the statement **"Using the Internet in the VR process improves my overall job performance"** on a five-point Likert scale where 1 = "strongly agree," 2 = "agree," 3 = "neutral," 4 = "disagree," and 5 = "strongly disagree."

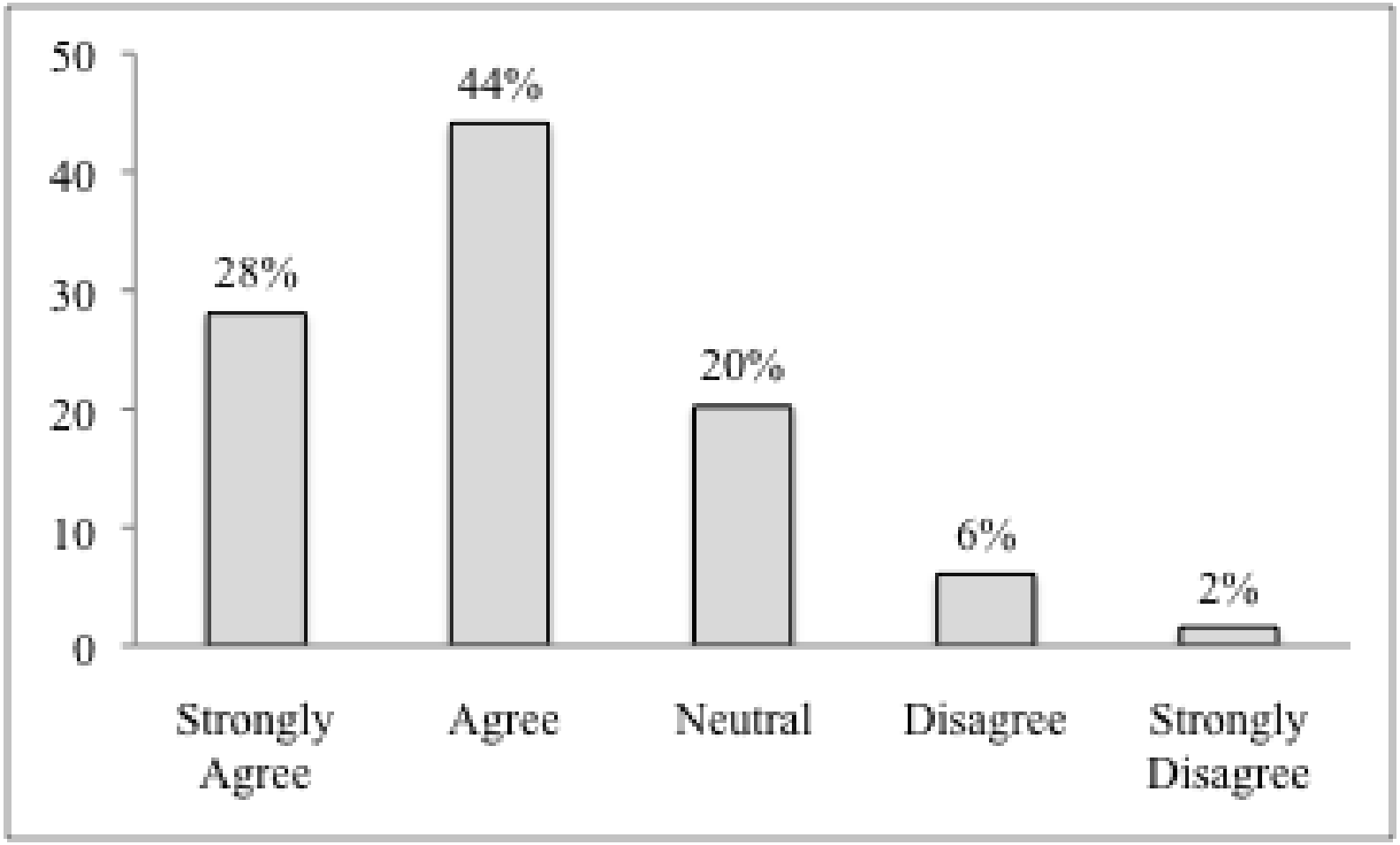


Figure 8: Counselor views (*N* = 382) of Internet use in VR and customer communication. Respondents were asked to evaluate the statement **"Using the Internet in the VR process I communicate with customers more frequently"** on a five-point Likert scale where 1 = "strongly agree," 2 = "agree," 3 = "neutral," 4 = "disagree," and 5 = "strongly disagree."

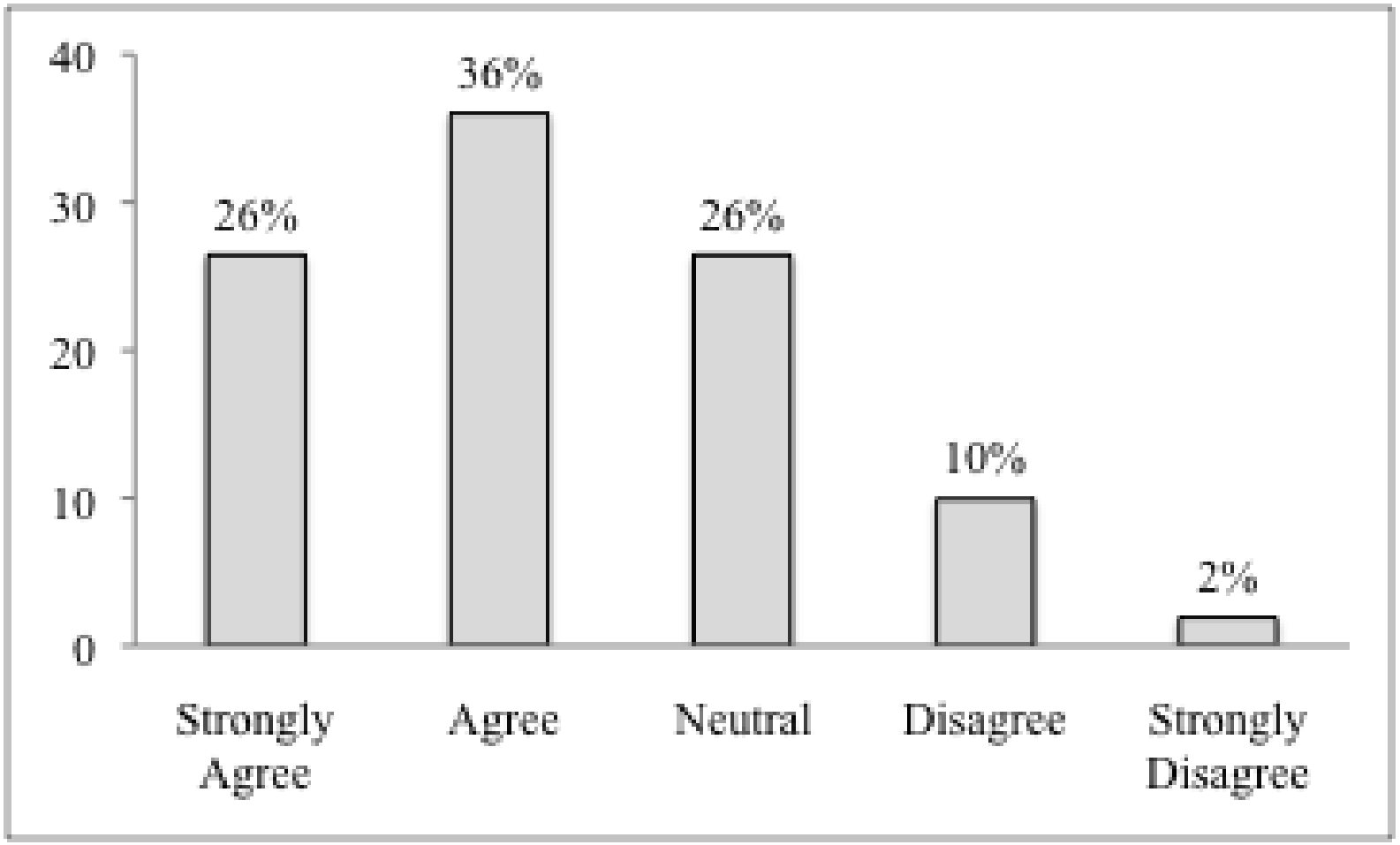


Figure 9: Counselor views (*N* = 382) of Internet use in VR and customer access to services and resources. Respondents were asked to evaluate the statement **"Using the Internet in the VR process increases customer access to services and resources"** on a five-point Likert scale where 1 = "strongly agree," 2 = "agree," 3 = "neutral," 4 = "disagree," and 5 = "strongly disagree."

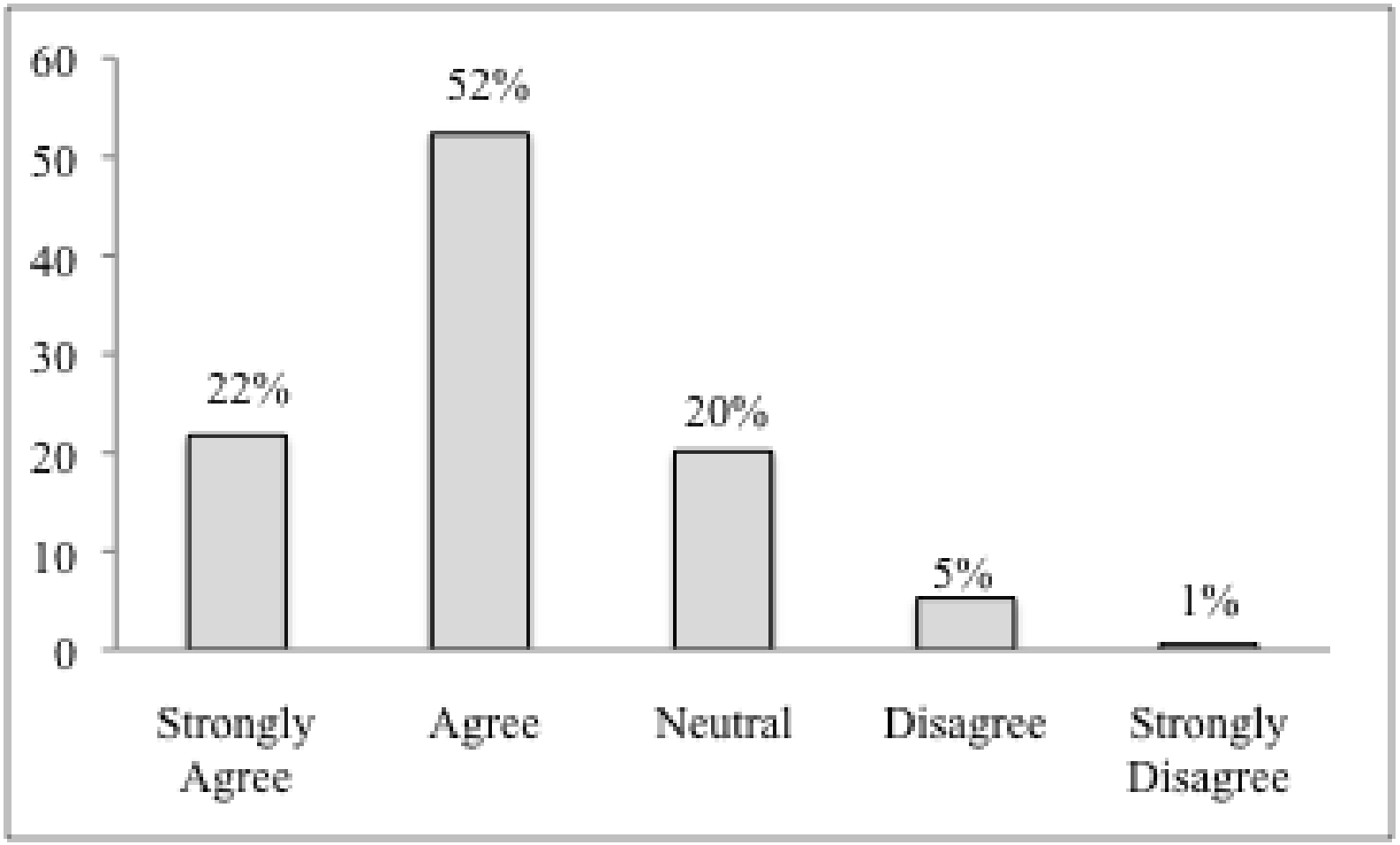
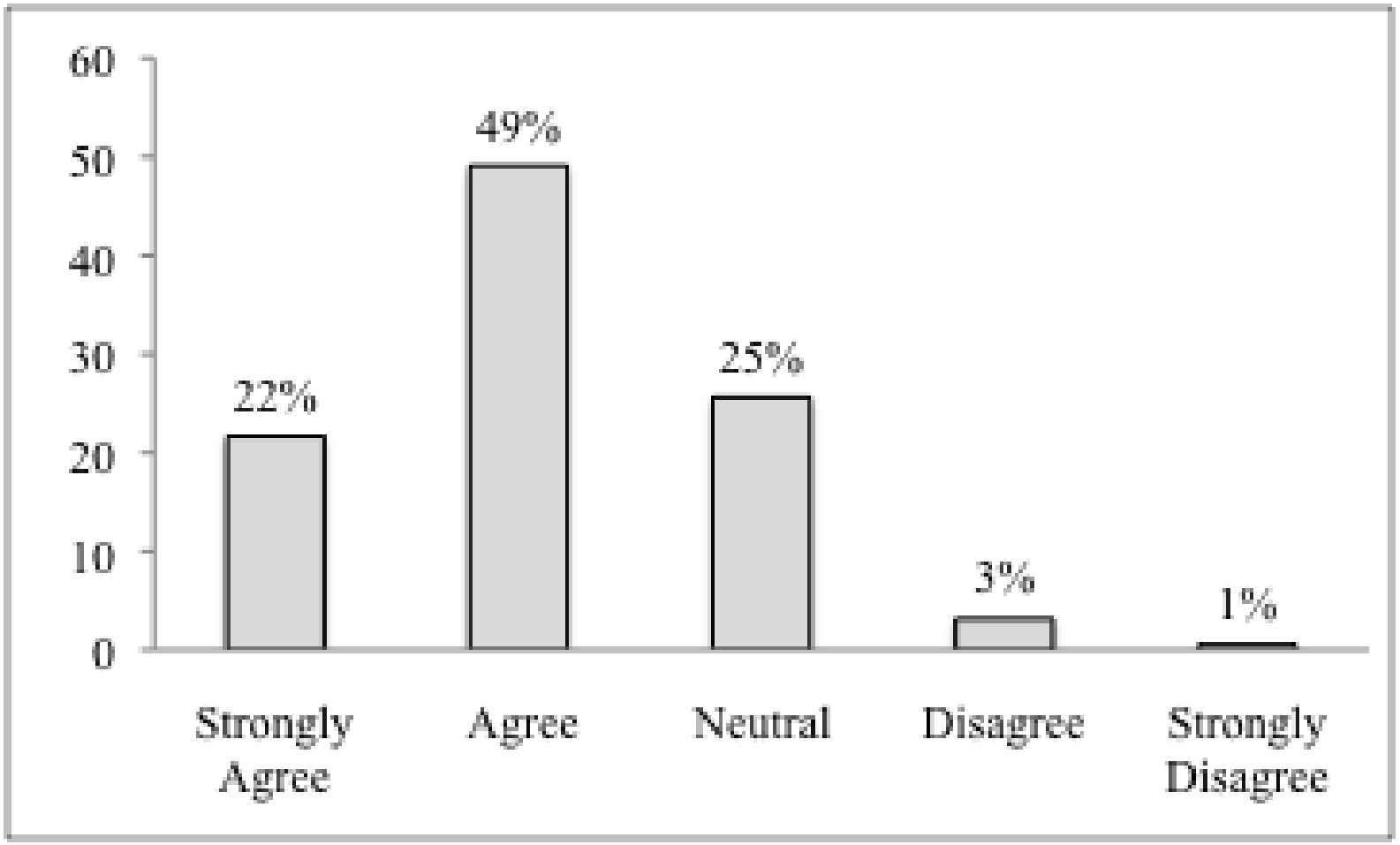


Figure 10: Counselor views (*N* = 379) of Internet use in VR and customer confidence in using Internet technology. Respondents were asked to evaluate the statement **"Using the Internet in the VR process increases customer confidence in using Internet technology"** on a five-point Likert scale where 1 = "strongly agree," 2 = "agree," 3 = "neutral," 4 = "disagree," and 5 = "strongly disagree."



Disadvantages of ICT Use in VR

Survey findings:

- Questions about technology's efficiency (decreasing counselor travel and admin time)
- Questions about technology's effectiveness (customer engagement, time in VR system, and employment outcomes)

Figure 11: Counselor views (*N* = 383) of Internet use in VR and time spent on travel and related costs. Respondents were asked to evaluate the statement "**Using the Internet in the VR process I spend less time on travel and related costs"** on a five-point Likert scale where 1 = "strongly agree," 2 = "agree," 3 = "neutral," 4 = "disagree," and 5 = "strongly disagree."

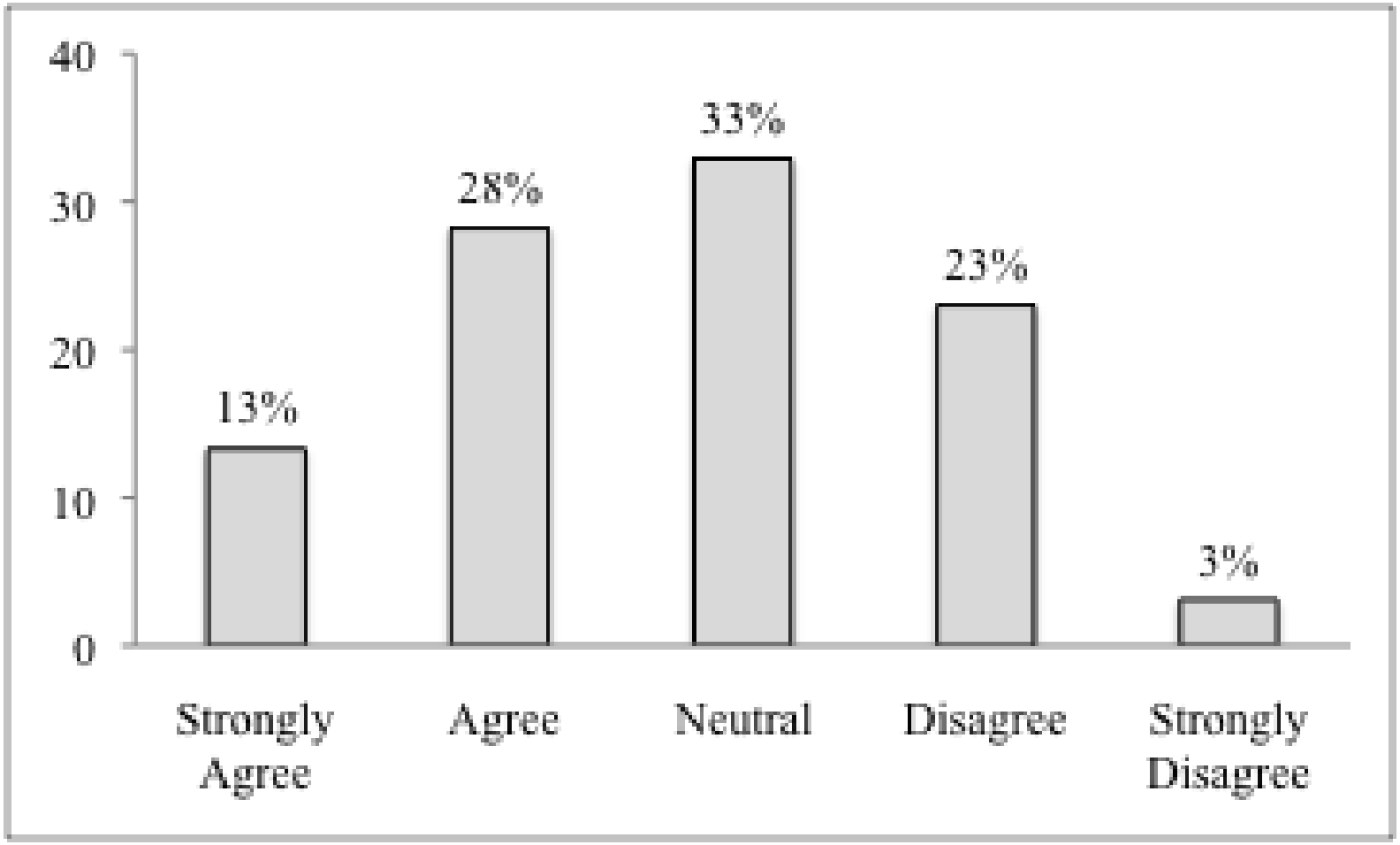


Figure 12: Counselor views (*N* = 382) of Internet use in VR and time spent on administrative tasks and with customers. Respondents were asked to evaluate the statement **"Using the Internet in the VR process I spend less time on administrative tasks and more time with customers"** on a five-point Likert scale where 1 = "strongly agree," 2 = "agree," 3 = "neutral," 4 = "disagree," and 5 = "strongly disagree."

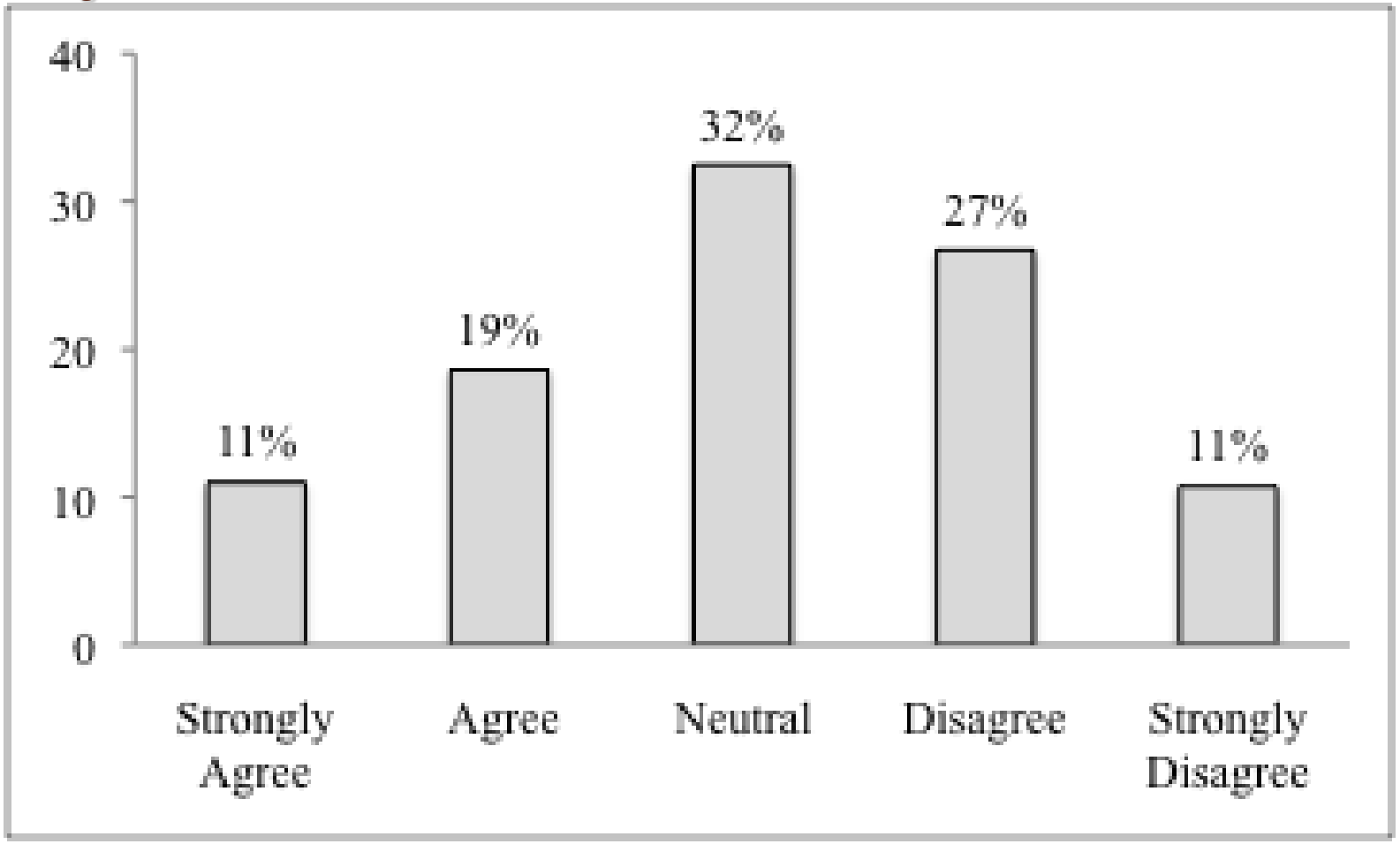


Figure 13: Counselor views (*N* = 383) of Internet use in VR and customer engagement in the rehabilitation process. Respondents were asked to evaluate the statement **"Using the Internet in the VR process customers are more engaged in the rehabilitation process"** on a five-point Likert scale where 1 = "strongly agree," 2 = "agree," 3 = "neutral," 4 = "disagree," and 5 = "strongly disagree."

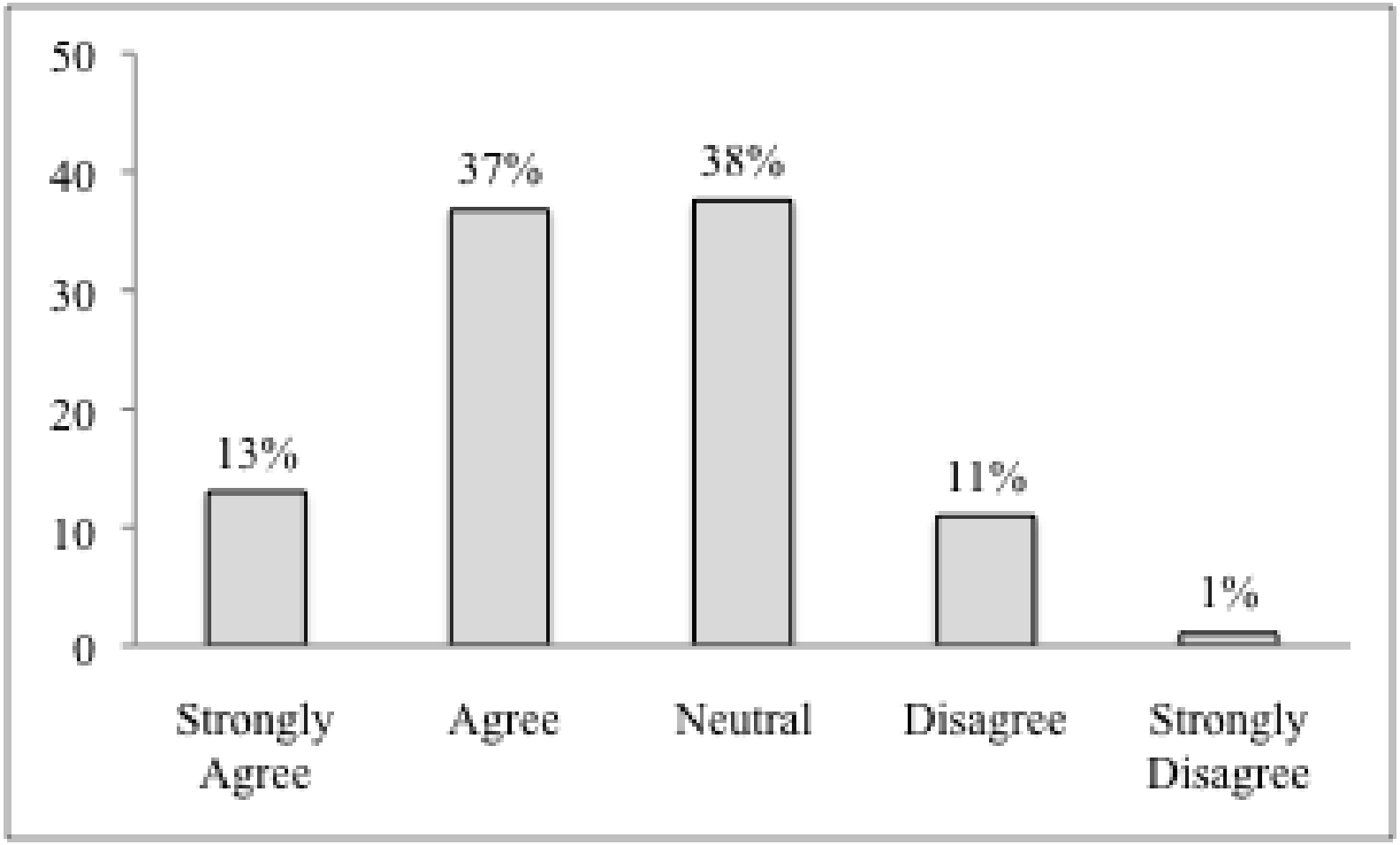


Figure 14: Counselor views (*N* = 381) of Internet use in VR and time customers spend in the VR system. Respondents were asked to evaluate the statement **"Using the Internet in the VR process customers spend less time in the VR system"** on a five-point Likert scale where 1 = "strongly agree," 2 = "agree," 3 = "neutral," 4 = "disagree," and 5 = "strongly disagree."

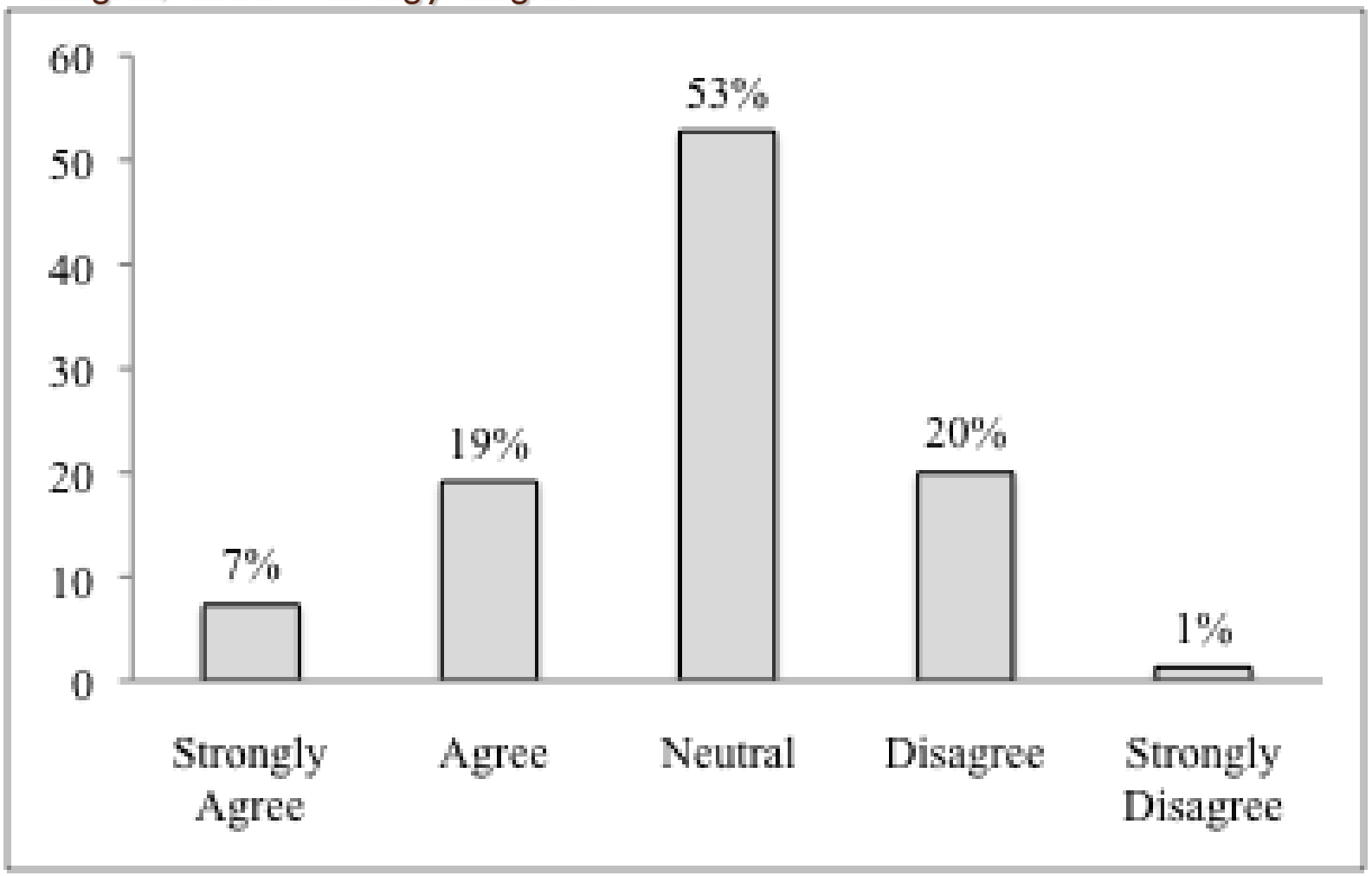
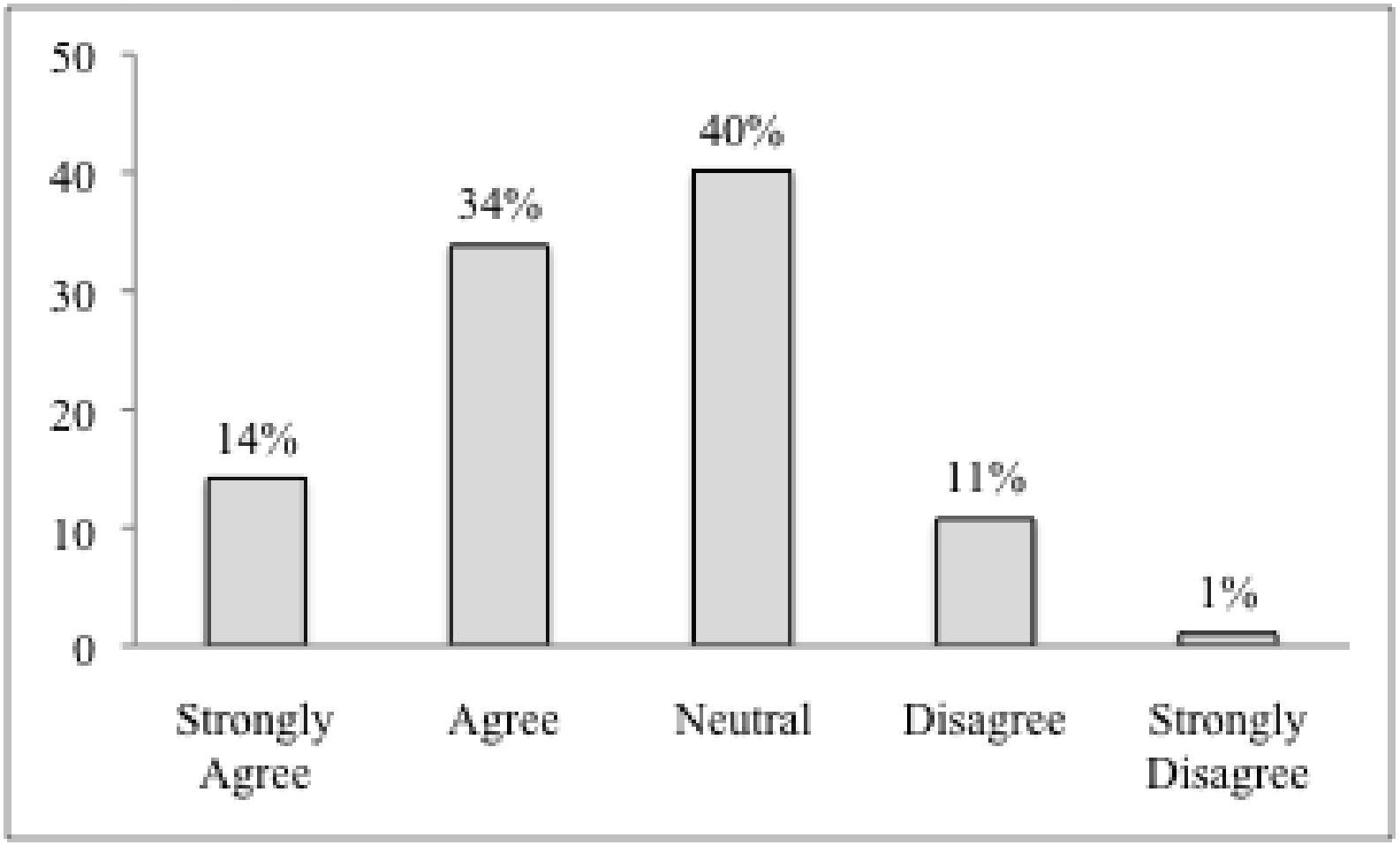


Figure 15: Counselor views (*N* = 381) of Internet use in VR and speed with which customers gain jobs. Respondents were asked to evaluate the statement **"Using the Internet in the VR process customers gain jobs faster"** on a five-point Likert scale where 1 = "strongly agree," 2 = "agree," 3 = "neutral," 4 = "disagree," and 5 = "strongly disagree."



Disadvantages of ICT Use in VR

Interview findings:

- Losing the personal touch of rehabilitation counseling
- Managing electronic and non-electronic communication and related customer expectations
- Balancing technology efficiency and VR effectiveness
- Increased technology reliance and consequences
- Lack of ICT access and resources – a barrier to efficient service delivery and case management
- Using a paper and electronic (hybrid) approach to case management – save but inefficient

Implications

- ICT can be used for many VR activities but might not always be the most useful method (job search).
- Counselor ICT use spans across all population/disability types but little is known about severity of disability.
- An aging VR workforce serves customers who may be more technology-savvy (youth, the Deaf).
- Counselor concerns about ICT's impersonal nature yet they mainly use it for customer communication and engagement.
- How do counselor views, experiences, and perspectives ("personal communication") match up with those of customers (youth, the Deaf)?

Implications cont.

- Counselor preference to not use ICT for counseling ("personal aspects") but separating it from other VR activities is not that easy in practice (cf. Patterson, 1999).
- Technology implementation in VR is complicated (efficiency concept, changes to agency staffing structure).
- [Providing customer ICT access at the VR office is critical to increase counselor ICT adoption and use.]
- [Informal ICT training incl. using technology-savvy counselors (young, have a disability) as peer mentors are other facilitators.]

Conclusions

1. ICT plays an important and transformative role in public VR.
2. Challenges utilizing ICT in VR remain.
3. Growth in Internet use raises questions about the *personal aspect* of rehabilitation counseling.
4. Need to balance technology's efficiency while still focusing on the "human" in a human services program.

"I think that technology absolutely has its place. Readily accessible, it becomes hopefully a permanent electronic system.

On the other hand I think many technologies distract from the humanness and if you don't really have a good balance of that then it's very easy to get sucked into the electronic part of our lives.

So I think it's fantastic on one hand; on the other hand it's not nirvana. And I don't think that you can have one or the other. I think that you need a combination of both."

NY Counselor

Recommendations: Policymakers

1. Provide policy guidance and invest in efforts to build technology capacity of state VR agencies.

2. Invest in developing a knowledge base on Internet use in VR to better inform policymaking and service delivery practice.

Recommendations: State VR Agencies

1. Provide consistent counselor access to the Internet and up-to-date technology and related supports.
2. Provide computer and Internet access to customers to use in the rehabilitation process.
3. Provide staff training and professional development to counselors to stay current on technology developments and their application in VR.

Recommendations: State VR Agencies cont.

4. Use multiple training modes and a variety of formats to provide ICT training to meet the diverse learning needs and preferences of counselors.
5. Provide counselor support with managing electronic and non-electronic information and communication.
6. Streamline case management across staff at an agency level, minimize the data entry burden, and have a contingency plan in case technology failure.

Recommendations: VR Counselors & Practitioners

1. Integrate Internet use with customers into the rehabilitation process.
2. Integrate a technology focus into customer assessment and be knowledgeable about computer literacy programs for customer referral.
3. Discuss communication options and expectations with customers at intake and involve them in negotiating a reasonable timeframe for response.

Recommendations: Individuals with Disabilities & Advocates

1. Capitalize on the benefits of ICT to play an active role in the rehabilitation process.
2. Advocate for VR services to be available and accessible electronically.

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